

1996

Frege On Indexicals: Sense And Context Sensitivity

Richard Charles DeVidi

Follow this and additional works at: <https://ir.lib.uwo.ca/digitizedtheses>

Recommended Citation

DeVidi, Richard Charles, "Frege On Indexicals: Sense And Context Sensitivity" (1996). *Digitized Theses*. 2590.
<https://ir.lib.uwo.ca/digitizedtheses/2590>

This Dissertation is brought to you for free and open access by the Digitized Special Collections at Scholarship@Western. It has been accepted for inclusion in Digitized Theses by an authorized administrator of Scholarship@Western. For more information, please contact tadam@uwo.ca, wlsadmin@uwo.ca.



National Library
of Canada

Acquisitions and
Bibliographic Services Branch

395 Wellington Street
Ottawa, Ontario
K1A 0N4

Bibliothèque nationale
du Canada

Direction des acquisitions et
des services bibliographiques

395, rue Wellington
Ottawa (Ontario)
K1A 0N4

Your file Votre référence

Our file Notre référence

NOTICE

The quality of this microform is heavily dependent upon the quality of the original thesis submitted for microfilming. Every effort has been made to ensure the highest quality of reproduction possible.

If pages are missing, contact the university which granted the degree.

Some pages may have indistinct print especially if the original pages were typed with a poor typewriter ribbon or if the university sent us an inferior photocopy.

Reproduction in full or in part of this microform is governed by the Canadian Copyright Act, R.S.C. 1970, c. C-30, and subsequent amendments.

AVIS

La qualité de cette microforme dépend grandement de la qualité de la thèse soumise au microfilmage. Nous avons tout fait pour assurer une qualité supérieure de reproduction.

S'il manque des pages, veuillez communiquer avec l'université qui a conféré le grade.

La qualité d'impression de certaines pages peut laisser à désirer, surtout si les pages originales ont été dactylographiées à l'aide d'un ruban usé ou si l'université nous a fait parvenir une photocopie de qualité inférieure.

La reproduction, même partielle, de cette microforme est soumise à la Loi canadienne sur le droit d'auteur, SRC 1970, c. C-30, et ses amendements subséquents.

FREGE ON INDEXICALS: SENSE AND CONTEXT SENSITIVITY

by

Richard C. DeVidi

Department of Philosophy

Submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy

Faculty of Graduate Studies
The University of Western Ontario
London, Ontario
November 1995

©Richard C. DeVidi 1996



**National Library
of Canada**

**Acquisitions and
Bibliographic Services Branch**

**395 Wellington Street
Ottawa, Ontario
K1A 0N4**

**Bibliothèque nationale
du Canada**

**Direction des acquisitions et
des services bibliographiques**

**395, rue Wellington
Ottawa (Ontario)
K1A 0N4**

Your file Votre référence

Our file Notre référence

The author has granted an irrevocable non-exclusive licence allowing the National Library of Canada to reproduce, loan, distribute or sell copies of his/her thesis by any means and in any form or format, making this thesis available to interested persons.

L'auteur a accordé une licence irrévocable et non exclusive permettant à la Bibliothèque nationale du Canada de reproduire, prêter, distribuer ou vendre des copies de sa thèse de quelque manière et sous quelque forme que ce soit pour mettre des exemplaires de cette thèse à la disposition des personnes intéressées.

The author retains ownership of the copyright in his/her thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without his/her permission.

L'auteur conserve la propriété du droit d'auteur qui protège sa thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.

ISBN 0-612-09855-9

Canada

Name Richard C. DeVidi

Dissertation Abstract International is arranged by broad, general subject categories. Please select the one subject which most nearly describes the content of your dissertation. Enter the corresponding four-digit code in the spaces provided.

Philosophy
SUBJECT TERM

0422 U·M·I
SUBJECT CODE

Subject Categories

THE HUMANITIES AND SOCIAL SCIENCES

COMMUNICATIONS AND THE ARTS
Architecture 0729
Art History 0307
Cinema 0900
Dance 0378
Fine Arts 0357
Information Science 0723
Journalism 0391
Library Science 0399
Mass Communications 0308
Music 0413
Speech Communication 0459
Theater 0465

EDUCATION
General 0515
Administration 0514
Adult and Continuing 0516
Agricultural 0517
Art 0273
Bilingual and Multicultural 0282
Business 0488
Community College 0275
Curriculum and Instruction 0272
Early Childhood 0518
Elementary 0524
Finance 0277
Guidance and Counseling 0519
Health 0480
Higher 0745
History of 0520
Human Economics 0278
Industrial 0521
Language and Literature 0279
Mathematics 0280
Music 0522
Philosophy of 0998
Physical 0523

Psychology 0525
Reading 0535
Religion 0527
Science 0714
Secondary 0533
Social Science 0534
Sociology of 0340
Special 0529
Teacher Training 0530
Technology 0710
Tests and Measurements 0288
Vocational 0747

LANGUAGE, LITERATURE AND LINGUISTICS

Language
General 0679
Ancient 0289
Linguistics 0290
Modern 0291
Literature
General 0401
Classical 0294
Comparative 0295
Medieval 0297
Modern 0298
African 0316
American 0591
Asian 0305
Canadian (English) 0352
Canadian (French) 0353
English 0593
Germanic 0311
Latin American 0312
Middle Eastern 0315
Romance 0313
Slavic and East European 0314

PHILOSOPHY, RELIGION AND THEOLOGY

Philosophy 0422
Religion
General 0318
Biblical Studies 0321
Chaplaincy 0319
History of 0320
Philosophy of 0322
Theology 0469

SOCIAL SCIENCES

American Studies 0323
Anthropology
Archaeology 0324
Cultural 0326
Physical 0327
Business Administration
General 0310
Accounting 0272
Banking 0770
Management 0454
Marketing 0336
Canadian Studies 0385
Economics
General 0501
Agricultural 0503
Commerce-Business 0505
Finance 0508
History 0509
Labor 0510
Theory 0511
Folklore 0358
Geography 0366
Gerontology 0351
History
General 0578

Ancient 0579
Medieval 0581
Modern 0582
Black 0328
African 0331
Asia, Australia and Oceania 0332
Canadian 0334
European 0335
Latin American 0336
Middle Eastern 0333
United States 0337
History of Science 0585
Law 0398
Political Science
General 0615
International Law and Relations 0616
Public Administration 0617
Recreation 0814
Social Work 0452
Sociology
General 0626
Criminology and Penology 0627
Demography 0738
Ethnic and Social Studies 0631
Individual and Family Studies 0628
Industrial and Labor Relations 0629
Public and Social Welfare 0630
Social Structure and Development 0700
Theory and Methods 0344
Transportation 0709
Urban and Regional Planning 0999
Women's Studies 0453

THE SCIENCES AND ENGINEERING

BIOLOGICAL SCIENCES

Agriculture
General 0473
Agronomy 0285
Animal Culture and Nutrition 0475
Animal Pathology 0476
Food Science and Technology 0359
Forestry and Wildlife 0478
Plant Culture 0479
Plant Pathology 0480
Plant Physiology 0817
Range Management 0777
Wood Technology 0746

Biology
General 0306
Anatomy 0287
Biochemistry 0308
Botany 0309
Cell 0379
Ecology 0329
Entomology 0353
Genetics 0369
Limnology 0793
Microbiology 0410
Molecular Biology 0307
Neuroscience 0317
Oceanography 0416
Physiology 0433
Radiation 0821
Veterinary Science 0778
Zoology 0472

Biophysics
General 0784
Medical 0760

Earth Sciences

Biogeochemistry 0425
Cosmochemistry 0996

Geology
Geology 0370
Geology 0372
Geophysics 0373
Hydrology 0388
Mineralogy 0411
Paleontology 0345
Paleobotany 0426
Paleogeography 0418
Paleogeology 0985
Polymer 0427
Physical Geography 0368
Physical Oceanography 0415

HEALTH AND ENVIRONMENTAL SCIENCES

Environmental Sciences 0768
Health Sciences
General 0546
Audiology 0300
Chemotherapy 0992
Dentistry 0547
Education 0330
Hospital Management 0769
Human Development 0758
Immunology 0982
Medicine and Surgery 0544
Mental Health 0347
Nursing 0549
Nutrition 0570
Obstetrics and Gynecology 0380
Occupational Health and Safety 0354
Ophthalmology 0381
Pathology 0571
Pharmacology 0419
Pharmacy 0572
Physical Therapy 0573
Public Health 0574
Radiology 0574
Recreation 0575

Speech Pathology 0460
Toxicology 0383
Home Economics 0386

PHYSICAL SCIENCES

Pure Sciences
Chemistry
General 0485
Agricultural 0749
Analytical 0486
Biochemistry 0487
Inorganic 0488
Nuclear 0738
Organic 0490
Pharmaceutical 0491
Physical 0494
Polymer 0495
Radiation 0754
Mathematics 0405
Physics
General 0605
Acoustics 0986
Astronomy and Astrophysics 0606
Atmospheric Science 0608
Atomic 0748
Electronics and Electricity 0607
Elementary Particles and High Energy 0798
Fluid and Plasma 0739
Molecular 0609
Nuclear 0610
Optics 0732
Radiation 0734
Solid State 0611
Statistics 0443
Applied Sciences
Applied Mechanics 0346
Computer Science 0984

Engineering
General 0537
Aerospace 0538
Agricultural 0539
Automotive 0540
Biomedical 0541
Chemical 0542
Civil 0543
Electronics and Electrical 0544
Heat and Thermodynamics 0548
Hydraulic 0545
Industrial 0546
Marine 0547
Materials Science 0794
Mechanical 0548
Metallurgy 0743
Mining 0551
Nuclear 0552
Packaging 0549
Petroleum 0745
Sanitary and Municipal 0544
System Science 0790
Geotechnology 0428
Operations Research 0796
Plastics Technology 0795
Textile Technology 0994

PSYCHOLOGY

General 0621
Behavioral 0384
Clinical 0422
Developmental 0420
Experimental 0423
Industrial 0424
Personality 0425
Physiological 0426
Psychobiology 0427
Psychometrics 0432
Social 0451

ABSTRACT

Indexical expressions – e.g., 'I', 'here', 'yesterday', 'this', etc. – pose a serious challenge for a Fregean theory of meaning. A Fregean theory holds that the meaning of an expression is its sense, and that this sense determines the reference of the expression independently of context. The most notable feature of indexicals, however, is their sensitivity to context. David Kaplan and John Perry argue that there can be no Fregean solution to this issue. They assume (falsely) that the Fregean sense of a singular term is given by a definite description, and argue that this picture cannot work. Kaplan and Perry advance a theory of indexicals according to which the contribution an indexical makes to a proposition is the referent itself, and the meaning of the indexical is a context-sensitive rule associated with it. However, neither sort of meaning accounts for what a hearer understands. Frege's view on 'I' involves a 'special and primitive' mode of presentation of self, so that thoughts involving this mode of presentation are incommunicable. Gareth Evans bases an interpretation on Frege's remarks according to which the notion of sense is understood as a 'way of thinking' of the reference. Frege's remarks on 'I', however, violate his own strictures against psychologism. Hence, the view Evans builds on these remarks fails as an interpretation of Frege and is for the same reason unattractive as an account of indexicals.

The proper way to construe Frege's expression 'mode of presentation' is the way Frege himself did: namely, as a criterion of identity. The appeal of the direct reference theory rests largely on the seeming transparency of indexical reference; but the idea that we have a language-independent grasp of concrete objects is an illusion. Reference requires a criterion of identity. The meaning of a particular utterance of an indexical is a Fregean sense, which is to be understood as a criterion of identity.

Frege's few, tentative remarks on indexicals have been persistently neglected in the secondary literature. The writings of Michael Dummett are an exception in this regard. Nevertheless Dummett has never marshalled a full response to criticism of Frege on indexicals. Drawing on Frege's writings and Dummett's commentary on them, it is shown that Frege's antagonists do not present an attractive alternative theory, and that an account of indexicals consistent with Frege's theory of sense and reference can and must be given.

TABLE OF CONTENTS

CERTIFICATE OF EXAMINATION	ii
ABSTRACT	iii
TABLE OF CONTENTS	v
Chapter I	1
1. Opening	1
2. Terminology	4
3. Frege's Theory of Meaning	11
4. Thoughts and Indexicals	31
Chapter II	36
1. Anti-Fregean Arguments	38
2. The Direct Reference Theory of Indexicals	47
3. A Brief Fregean Response	52
4. Objections to Direct Reference	56
Chapter III	72
1. Incommunicable thoughts	74
2. Correlative Indexicals	86
3. Thoughts and Context	99
Chapter IV	117
1. Conventional Significance and Indexicals	119
2. Types and Tokens	132
3. Indexicals and the Context Principle	143
Chapter V	156
BIBLIOGRAPHY	161
VITA	167

The author of this thesis has granted The University of Western Ontario a non-exclusive license to reproduce and distribute copies of this thesis to users of Western Libraries. Copyright remains with the author.

Electronic theses and dissertations available in The University of Western Ontario's institutional repository (Scholarship@Western) are solely for the purpose of private study and research. They may not be copied or reproduced, except as permitted by copyright laws, without written authority of the copyright owner. Any commercial use or publication is strictly prohibited.

The original copyright license attesting to these terms and signed by the author of this thesis may be found in the original print version of the thesis, held by Western Libraries.

The thesis approval page signed by the examining committee may also be found in the original print version of the thesis held in Western Libraries.

Please contact Western Libraries for further information:

E-mail: libadmin@uwo.ca

Telephone: (519) 661-2111 Ext. 84796

Web site: <http://www.lib.uwo.ca/>

Chapter I

INTRODUCTION

1. Opening

Over the past twenty years, there has been a dramatic rise in the attention paid to the philosophy of Gottlob Frege. Credit for this is largely due to Michael Dummett, whose influential book, *Frege: Philosophy of Language* (1973), not only established a very high standard for the interpretation of Frege's work, but is itself a challenging and vital piece of philosophy. Before *Frege: Philosophy of Language*, Frege was known primarily for two things. First, he was acknowledged as the author of the first substantial innovation in logic in twenty-five hundred years, namely, the invention of modern mathematical logic. Second, Frege was known for his 1891 paper, 'Über Sinn und Bedeutung', which inspired much influential work on the theory of meaning in this century. These contributions alone were sufficient to secure for Frege a prominent place in the history of philosophy; yet Dummett

has managed to provide a richer, deeper picture of Frege's philosophy, one which lends considerable credibility to his claim that Frege deserves credit for laying the foundations for 'the linguistic turn' which is the characteristic mark of analytical philosophy; Frege is thus properly 'the grandfather of analytical philosophy'. More important, though, is the fact that Dummett's Frege is a philosopher not only of historical importance, but one whom it is still worth grappling with.

The estimation of Frege's achievements in the philosophy of arithmetic has undoubtedly risen, and the value of his mathematical contribution has been recognized as a result of the rediscovery of 'Frege's theorem'.¹ While this reevaluation amounts to very much less than an endorsement of Frege's logicist programme, it gives Frege more credit than he was willing to give himself, and certainly undermines the evaluation that his work in philosophy of mathematics was an utter failure.²

Even after his realization of the collapse of his logicist programme, Frege remained convinced of the value of his insights into 'logic', a heading under which he treated both logic properly so called -- the theory of inference -- as

¹ See, for example, William Demopoulos's anthology, *Frege's Philosophy of Mathematics* (1995), in particular Demopoulos's introductory essay.

² Cf. Dummett's 'What is mathematics about?' (1993: 429-445).

well as his theory of meaning. Ironically, fate has not been so kind to Frege's philosophy of language as it has been to his thoughts on mathematics. The same twenty-year period in which the breadth and depth of Frege scholarship have increased so dramatically has marked an equally dramatic rejection of Fregean approaches to the theory of meaning and the emergence of a new anti-Fregean orthodoxy in the philosophy of language. The new orthodoxy is not a result of, nor has it occurred in concert with, the greater attention being paid to Frege's writings in some quarters. Rather, it has emerged from perceived difficulties which arise for the Fregean theory of sense and reference when it is confronted with certain categories of linguistic expressions, for example, natural kind terms and indexicals, or with modal contexts.

Dummett has extensively discussed all of the perceived problems facing the Fregean theory, not only in *Frege: Philosophy of Language*, but also in *The Interpretation of Frege's Philosophy* (1981). Dummett believes that a Fregean theory must and can take notice of what Putnam (1975) has called 'the division of linguistic labour', and he has argued that modal considerations are irrelevant to the theory of sense and reference, provided that the theory is properly understood. In the case of indexicals, however, Dummett offers an effective response to some of the criticisms of Frege, but never arrives at an entirely satisfactory positive

account of indexicals in terms of the theory of sense and reference.

This dissertation constitutes an attempt at providing a satisfactory account of indexicals in terms of Frege's theory of sense and reference. Chapter II addresses the arguments which are purported to show that a Fregean account of indexicals is impossible, and to show that the alternative account is less attractive than at first sight seems to be the case. Chapter III presents a close examination of Frege's few tentative remarks on indexicals, both as a way of verifying what is unsound in the criticisms of Frege, and in order to see what relatively conservative emendations of Frege's theory will be required for a viable Fregean account of indexicals (Chapter IV). The remainder of the present chapter is devoted to setting out the scope of the issues to be discussed and the broad outlines of Fregean theory which I think capable of accommodating them.

2. Terminology

Indexicals are words which depend for their reference on the context in which they are used; the English language contains many such expressions, including the pronouns 'I', 'you', 'she', 'he', 'hers', 'it', the demonstrative pronouns

'that' and 'this', the adverbs 'here', 'now', 'tomorrow', 'yesterday', and others. Sentences which contain indexical words depend on the context of utterance for their truth value; the particular circumstance in which such a sentence is uttered sets the truth conditions for that sentence. Accordingly, whole sentences may count as indexical expressions.

Indexicals are, in the first instance, singular terms, the reference of which depends on the context of utterance. By itself, this definition does not seem to distinguish indexicals from names. For example, 'Fred' is surely the name of more than one individual, and may on different occasions of use pick out different individuals. Most indexicals do have a further property which names do not have, and this property is sometimes taken to be the feature that distinguishes them from names: it is alleged that indexicals are each governed by a single linguistic rule.³ In coming to learn the use of these words, one comes to know how to use and understand the words regardless of what occasion arises. Given a context and the rule governing such an indexical, the referent can usually be determined. To take the presence of such an associated rule as the

³ Plural indexicals such as 'we', (plural) 'you', and 'they' give some reason to doubt that all indexicals are governed by a single rule, as they appear to have multiple indexical uses. This point was brought to my attention by Richard Vallée's paper 'Who are We', read at the annual meeting of the Canadian Philosophical Association, June 1995.

distinguishing mark of an indexical word, however, is rendered dubious by the fact that a similar rule could be plausibly attributed to place-names. For example, 'Kingston' might have associated with it the rule that it is the name of a town or city, which town or city it refers to depending on whether it is uttered in the context of a discussion of, say, Canadian university towns, Jamaican holidays, or apple picking in the Annapolis Valley. The difference between indexicals and names is that the context sensitivity which attaches to names is accidental; proper names are supposed to function as tags that have a constant reference from context to context; any failure in this regard can be remedied by means of further specification (e.g. Kingston, Ontario, Kingston, Jamaica, or Kingston, Nova Scotia), but this is not always the case with indexicals. Indexicals function so as to exploit the context to identify a referent; thus the essential feature of indexicals is their context-sensitivity.

Many of the words in question have uses other than as indexicals. 'I' might, for example, be a nickname for Irving. This 'I' is not the pronoun 'I'. A more serious issue is the lexical ambiguity of pronouns: they have both an anaphoric and an indexical use. An anaphoric use of a pronoun is syntactically bound to another word or phrase occurring elsewhere in the discourse, for example 'she' in the sentence 'Jennifer writes when she is in the office'.

Anaphora evidently involve a sort of sensitivity to (syntactic) context. But anaphors also introduce special difficulties which are not evidently relevant to the use of such pronouns as free-standing singular terms. In meaningful discourse, a pronoun not used anaphorically is used indexically. In the absence of any compelling reason to think that a uniform treatment of indexicals and anaphora is required, the latter uses of pronouns shall be set aside.

Complex expressions containing indexical words are also context sensitive; however, there is reason to question the adequacy of saying that these refer in a context sensitive way. Many believe that a definite descriptions such as 'the day before yesterday' is not a genuine singular term. Almost no one agrees with Frege's contention that a sentence such as 'I arrived the day before yesterday' has a reference (cf. p. 14). Yet such expressions surely function in a context sensitive way. The same might be said of tensed sentences. However, the issues surrounding the handling of verb tenses add complications which I do not wish to take up here;⁴ by 'indexical expressions', then, I shall henceforth mean both indexical words and complex expressions containing indexical words.

⁴ I have sympathy with, but cannot entirely endorse, Russell's stand on the issue:

The occurrence of tense in verbs is an exceedingly annoying vulgarity due to our preoccupation with practical affairs. It would be much more agreeable if they had no tense, as I believe is the case with Chinese, but I do not know Chinese (Russell 1985: 117).

'Indexicals' is currently the most commonly used term for this category of expressions, although other authors have used other terms.⁵ Some writers use the term 'demonstratives' to refer to the entire class of expressions. This is a tendency to which, for example, Perry and Kaplan have at times succumbed,⁶ although Kaplan concedes that, despite his tendency to backslide, this amounts to 'poor usage' (Kaplan 1989: 489). The reason it is poor usage is that the term 'demonstratives' is best reserved for the pronouns 'this' and 'that' which differ from other indexicals in generally requiring supplementation by a pointing gesture if their reference is to be unambiguous.

Russell called the words in question 'egocentric particulars',⁷ and Reichenbach called them 'token reflexives'. Both terms are heavily theory-laden, and both theories are highly debatable. Russell's term never gained very widespread use, perhaps because the relevant feature of

⁵ The term has its roots in pioneering work by Burks ((1949) and Bar-Hillel (1954), and in Goodman's (1951: 290 ff.; 362 ff.) discussion of 'indicator words'. C.S. Pierce is also sometimes cited in this connection.

⁶ Under their influence, the tendency to refer to all indexicals as demonstratives became quite common. Nor is it defunct; see (Heck 1995: 87n 12).

⁷ This is what Russell was calling them in the 1920's. In the earlier 'Lectures on Logical Atomism' he called them 'emphatic particulars' (Russell 1985: 153). He also tentatively suggested that, if any natural language terms deserve to be so called, 'this' and 'that' might be 'logically proper names'.

the linguistic items is their context sensitivity, and so referring to them in terms of the alleged ego orientation of attitudes expressed using them seems at best gratuitous. At any rate, Reichenbach's phrase 'token-reflexives' achieved much wider currency than did Russell's.

However, the presumption Reichenbach's term creates in favour of the conflation of issues peculiar to indexicality with issues of self-reference is equally unnecessary. In *The Elements of Symbolic Logic*, Reichenbach writes:

We saw that most individual-descriptions are constructed by reference to other individuals. Among these there is a class of descriptions in which the individual referred to is the act of speaking. We have special words to indicate this reference; such words are 'I', 'you', 'here', 'now', 'this'. Of the same sort are the tenses of verbs, since they determine time by reference to the time when the words are uttered. To understand the function of these words we have to make use of the distinction between *token* and *symbol*, 'token' meaning the individual sign, and 'symbol' meaning the class of similar tokens (cf. § 2). Words and sentences are symbols. The words under consideration are words which refer to the corresponding token used in an individual act of speech, or writing; they may therefore be called *token-reflexive words*.

It is easily seen that all these words can be defined in terms of the phrase 'this token'. The word 'I', for instance, means the same as 'the person who utters this token'; 'now' means the same as 'the time at which this token was uttered'; 'this table' means the same as 'the table pointed to by a gesture accompanying this token'. We therefore need inquire only into the meaning of the phrase 'this token,' (Reichenbach 1947: 284).

Reichenbach accounts for the variable reference of indexicals by having every token of a given token-reflexive refer to a different physical token - a different set of noises or ink marks - namely, itself.

On Reichenbach's analysis, the distinguishing characteristic of the expressions at issue is a sort of self-reference. However, so-called token-reflexive words are not in general used to refer to themselves. While indexicals are sometimes employed in self-referring expressions, e.g in the sentence 'This sentence contains five words', indexicals are more often used to refer to things other than themselves. When I say 'yesterday', I am referring to the day prior to my utterance of the word, not to the token of 'yesterday' that I utter. When I point and say 'this table', I no doubt attract attention to myself and my utterance, but it would at least be eccentric to say that I thereby refer to myself or to the token that I utter. Granted, indexicals do refer via the spatiotemporal

connection between the utterance of the token and its referent; but the sense in which a so-called token-reflexive word may be held to refer to itself is very different from the sense in which it refers to something other than itself. In the end, context-sensitivity is indubitably a mark of indexical expressions; self-reference is not.

3. Frege's Theory of Meaning

What Dummett calls the first plausible account of meaning in the history of philosophy, the basic outlines of which have not been improved upon since Frege devised it, emerged from Frege's efforts toward developing a system of logic with which to carry forward his logicist programme for arithmetic and analysis. Frege does not present himself as addressing anything under the heading of 'the theory of meaning'. However, his discussion of logic is considerably broader than is now customary: logic, properly so called, is concerned with inference; Frege's logical writings extend to topics well beyond this. In particular, Frege's theory of sense and reference treats of issues at a considerable remove from those logicians now concern themselves with; we would instead classify it as a thesis in the philosophy of

language.

Frege's concern with language actually begins with the *Begriffsschrift* (1879). In the preface to that work, Frege says that the development of his symbolic notation was motivated by the need for an instrument with which to carry out rigorous scientific reasoning, one which avoids those features of natural language which defeat this purpose. Frege (1882: 84-85) complains that in natural language, many words are vague or ambiguous, that modes of inference are numerous, obscure, and difficult to characterize, and that implicit assumptions and intuitions could creep into arguments unnoticed, leaving 'gaps' in chains of reasoning. Frege's idea was to overcome these difficulties by devising a language with a precisely defined syntax, one in which there is a clear distinction between

the formal part which in verbal languages comprises endings, prefixes, suffixes and auxiliary words, [and] the material proper (Hermes et al. 1979: 13; cited in Hodges 1985/86: 142).

The 'formal part' consists of conjunctions, variables, and so forth, which have rigorously defined uses and are not related to any particular subject matter. The 'material part' consists of the symbolic proxies for proper names, adjectives, and verbs. These have fixed contents, but the content could come from anywhere - for example, arithmetic, geometry, chemistry, and so forth. Thus, the

Begriffsschrift is really a fragment of natural language, with the content and syntax made more precise and with symbols in place of conventional words (cf. Hodges 1985/86: 142-143).

Begriffsschrift's analysis of the underlying compositional structure of sentences in terms of function and argument, and the use of a notation of quantifiers and variables for the expression of generality, were powerful and justly celebrated contributions to logic. Indeed, the revolution effected by Frege's innovations led to an explosive development of logic. However, there is an important difference between Frege's *Begriffsschrift* and modern logic. Logic is concerned with the validity of forms of argument, represented by inference schemas, and must therefore consider a multiplicity of possible interpretations of a formula. On the other hand, Frege conceived of the formulas of his *Begriffsschrift* not as mere forms to be arbitrarily interpreted, but as expressing contents; Frege was concerned only with a single interpretation of his language, the intended one.

The system of logic Frege employed in his later work does not differ from the *Begriffsschrift* in this respect. The formal system of *Grundgesetze* (1893) differs little in outward appearance from that employed in the earlier work, but in the preface to the later work, Frege speaks of 'internal transformations of the conceptual notation' (Frege

1893: ix). He lists five such transformations, the most thoroughgoing, and most significant for our purpose, concerns his rechristening of the symbol that had been called 'the content-stroke' in the earlier work as 'the horizontal'. This change reflects a deeper modification in Frege's explanation of what it is he takes to be expressed by a declarative sentence. In his earlier works - those written before 1891 - Frege said that a sentence expressed a 'judgeable content'. In *Grundgesetze*, he says that he now differentiates within judgeable content the thought and its truth value, 'as a consequence of distinguishing between sense and reference of a sign. In this case, the sense of a sentence is a thought, and its reference a truth value' (Frege 1893: x).⁸ Some of the more obvious advantages gained by distinguishing between sense and reference include a sharper account of (first level) concepts as functions from objects to truth values, a better understanding of identity, and a means of dealing with oblique contexts. Perhaps most important from Frege's point of view, is the fact that truth is brought clearly to the forefront in logic.⁹

⁸ I have slightly amended Furth's translation, rendering Frege's 'Bedeutung' as 'reference' rather than as 'denotation'.

⁹ Even before making the distinction between sense and reference, Frege had suggested that it 'would perhaps not be beside the mark to say that the laws of logic are nothing other than an unfolding of the content of the word "true"' (Hermes et al. 1979: 3).

Less readily apparent is a point which Dummett has long emphasized. By separating the reference from the sense of an expression, Frege was in a position to give an account of his notation which Dummett likes to compare to the much later notion of a model-theoretic semantics.¹⁰ A peculiarity of Frege's notion of reference is that he extends its application from those expressions to which it seems to naturally apply, namely singular terms, to expressions of other categories, including predicates and even sentences. To understand why Frege does this, Dummett suggests that we view Frege's notion of reference as having two ingredients. On the one hand, reference is just the relation between a name and what it stands for. On the other hand, it serves a role for Frege analogous to that of semantic value in model-theoretic semantics.¹¹

Logic begins with the idea of a schematic

¹⁰ Dummett can appear to overstate the analogy, e.g. when he writes in *Frege: Philosophy of Language* of 'the semantics which [Frege] provided for the formulas of predicate logic,' (Dummett 1973: 89). He ascribes to Frege a procedure which, but for the absence of functions and relation symbols of degree more than 2, or any specification of the domain, is 'exactly the same as the modern semantic treatment of predicate logic.... It is precisely such a notion of interpretation,' he says, 'that Frege has in mind when he speaks of "reference"' (Dummett 1973: 90). By his unwillingness to countenance a multiplicity of interpretations of his *Begriffsschrift*, Frege makes it clear how far he is from arriving at the model-theoretic notion of semantics. Elsewhere in *Frege: Philosophy of Language* and in subsequent works, Dummett states the analogy with greater circumspection.

¹¹ The next three paragraphs follow Dummett (1973: 85, 89-90; 1981: 148-151; 1991: 23-25).

representation of a form of argument. The point of a schematic representation is that it is supposed to represent the forms that actual arguments can take; a particular argument can be an instance of that form. An argument is valid only if it is an instance of a valid form. A presemantic notion of what it is to provide an interpretation of a schematic representation involves replacing the schematic letters with actual expressions of suitable type, and to characterize a form of argument as valid is just to claim that the conclusion comes out true under every interpretation under which the premises come out true. The need for a semantic theory arises out of the necessity of some means of surveying all possible interpretations of a formula containing schematic letters; once such a means of surveying all interpretations is in place we have a means of demonstrating the validity of a formula or an argument schema.

The principal difference between the notion of an interpretation by replacement and a semantic notion of interpretation is that the former involves no analysis of the way in which a sentence is determined as true or otherwise in accordance with its composition. We simply rely on our ability to recognize particular sentences, obtained by replacement from given formulas, as true or otherwise. A semantic theory requires that we frame a conception of the kind of semantic value that an expression

possesses for each category of expression.

An interpretation of a logical system, then, is obtained in part by assigning entities of suitable kinds to the primitive non-logical constants occurring in its formulas. An interpretation of a formula is no longer a replacement of the schematic letters by actual expression of the appropriate type, but is a direct assignment to them of possible semantic values of such expressions. More generally, the semantic value of an expression is that feature of it which goes to determine the truth of any sentence in which it occurs. The semantic notion of interpretation, employing as it does the notion of semantic value, involves an analysis of the way in which a sentence is determined as true or otherwise in accordance with its composition; the semantic value of an expression is sufficient, given the semantic values of other expressions, to determine any formula in which the expression occurs as true or otherwise.

According to Dummett, the apparently perplexing question of why Frege ascribes reference to sentences and incomplete expressions (while rarely even raising the question whether they can be said to refer at all), is to be answered by regarding the notion of reference as playing the role of that of semantic value. The reference of an expression then becomes that feature of it which goes to determine each sentence in which it occurs as true or false.

Frege did not start from the idea that there must be something that every expression must stand for, and then go on to construct his theory of reference. What was required for Frege's logical purposes was something like a semantic theory, one in which the truth-values of sentences are determined in accordance with their composition. However, there was not available the general notion of a semantic theory, or even any example of one from which it would have been possible to generalize. Frege had both to explain why a semantic theory was needed, and to create a specific such theory, and it was inevitable that he should have done both simultaneously. He did it by generalising a notion that has its immediate natural application to singular terms in such a way as to apply to expression of all logical types; and it is a measure of his genius that he did this with so sure a touch, finding in every case, precisely the right analogue (Dummett 1981: 159).

Of course, there are important disanalogies between model-theoretic semantics and Frege's theory of reference, differences of which Dummett is well aware. Frege's notion of reference has certain features that the notion of semantic value does not have, for example the identification of a proper name with its bearer (Frege 1893: § 2; 1896: 369; Hermes et al. 1979: 118, 122), the intersubstitutability of any expression *t* with the phrase

'what *t* refers to' (Hermes et al. 1979: 122), and the thesis that the reference of our words is what we talk about (Frege 1892: 28). These are not, in general features possessed by semantic values (consider the peculiarity of taking the semantic value of a sentence to be what we talk about when we utter it, if the semantic value of a sentence is taken to be a truth value).

Another virtue of Dummett's comparison of Frege's notion of reference with the notion of semantic value is that it alleviates some of the peculiarity of Frege's doctrine that the reference of an indicative sentence is a truth value (Frege 1892b: 34). Frege had long held that truth plays a central role in logic (cf. Hermes et al. 1979: 3); the theory of reference gives formal expression to that central role. After 1890, Frege is clear that it is reference which is the essential thing for logic (Hermes et al. 1979: 123), and truth is explicitly located in the realm of reference

While there are similarities between Frege's theory of reference and modern semantic theories, there are idiosyncrasies of terminology and of content that separate Frege's work from what came later. Here are some examples:

Combined with the syntactic analysis of sentences originating in the *Begriffsschrift*, Frege's theory of reference enabled him to give a clear account of the way in which the truth value of a sentence is determined according

to its composition. For example a sentence such as '2 is a prime number' is composed of a proper name, and a concept name, viz. 'ξ is a prime number'. For Frege, a concept is a function. The reference of a proper name is an object, and the reference of a function-name is an unsaturated entity called a function. Since the object, the number 2, falls under the concept in question, the composition of the sentence '2 is a prime number' determines the True as referent. In general, Frege holds that the referent of a complex expression is uniquely determined by the referents of its constituent expressions (Frege 1892: 32). What is important for logic is whatever contributes to a sentence referring to a truth value. Hence, a good rule of inference is one which cannot lead from truth to falsehood, and what is semantically important about any expression occurring in a sentence is just that in virtue of whose identity, or the analogue of identity in the case of functions, the sentence is true or false.

In a language adapted to the carrying out of deductive inference, Frege believed expressions and their referents ought to be in 1-1 correspondence. Natural language, however, often violates this requirement. From his earliest writings, Frege complained that 'Language proves to be deficient, however, when it comes to protecting thought from error. It does not even meet the first requirement which we must place upon it in this respect; namely, being

unambiguous,' (Frege 1882: 84).¹² In terms of the theory of reference, Frege expresses this requirement on a logically purified language by demanding that expressions which have a referent should have a unique referent (Frege 1892: 27). The rules of an adequate *Begriffsschrift* are supposed to assure us that every expression pertaining to that notation has a unique referent, (Frege 1893: §§ 3, 28; 1892: 41). Given Frege's assimilation of sentences to the class of proper names, and his restriction of the number of truth value objects to two, this principle is also an expression of his commitment to classical logic and to the timelessness of truth and falsehood.

Apart from the peculiarity of his terminology, Frege's logical system differs from more recent logic in that it considers only a single interpretation; this is to be expected, given that his system is really a logically refined fragment of natural language. Dummett (1991c: 81-82) has argued that for something to count as a semantic theory – rather than, say, a purely algebraic theory of valuations aiming to characterize logical consequence in algebraic terms – it must be plausible that the theory can be extended to a complete meaning theory for a language. Of course, this distinction between merely algebraic and genuinely semantic theories is not one with which logicians

¹² Of course, this does not demand a 1-1 correspondence, but only that the map from expression to referent not be 1-many.

are likely to concern themselves. The point is of some importance rather to those who propose to construct a theory of meaning on the basis of a semantic theory, an idea which has by no means been uncommon in the annals of analytical philosophy. The close connection between Frege's theory of reference and natural language expressions creates a strong presumption in favour of viewing his theory of reference as a semantic theory in Dummett's sense.

There is no reason to think that a Fregean theory of meaning must accept Frege's logical theory in all its particulars. The point is that the way to develop a semantic analysis of language requires a syntactic analysis along the lines of Frege's function/argument analysis. The basic idea is Frege's, but it would be foolish for the theory of meaning to disregard advances in the representation of logical syntax. Nor must a Fregean theory of meaning take Frege's semantic analyses as sacrosanct. Dummett's writings are a case in point: Dummett clearly advances a Fregean theory of meaning, but contrasts his own intuitionist anti-realism with Frege's classical realism.

On a Fregean view, reference or semantic value is not itself an ingredient of meaning. As Dummett notes, if it is assumed that

the meaning of an expression is the content of that knowledge possessed by the speakers which constitutes an understanding of it; it is what someone has to know

about the expression if he is to be a competent speaker of the language (Dummett 1991c: 83).

It is clear, therefore, that on this reading, a strong connection between meaning, understanding, and knowledge is required by a Fregean theory of meaning. This assumption is, of course, not uncontroversial.¹³ But given this assumption it cannot be the case that the meaning of an expression is its reference, for to understand an expression cannot be to know its reference. If this were so, to understand a sentence would be to know its truth value, at least on those theories which, like Frege's, take the reference or semantic value of a sentence to be a truth value. Hence, to know the reference of an expression is to know more than is needed to know its meaning (Dummett 1991: 122-123).

Frege was convinced that from the point of view of logic, what is important about an expression is its reference and what is important about a sentence is its truth value. But he also recognized that linguistic expressions also have other sorts of value. For example, utterance of the words 'Natalie has finished her lunch' might, on different occasions, serve to accomplish quite different linguistic acts; the sentence might be an

¹³ Part of the aim of Putnam's 'The meaning of 'meaning'' (1975) seems to be to drive a wedge between meaning and knowledge. Direct reference theorists are committed to a sharp distinction between the two.

assertion, a question, or even a command. Thus, Frege distinguished various kinds of force with which a sentence might be uttered. The words 'dog' and 'cur', 'nag' and 'horse', 'and' and 'but' are pairs of expressions which each serve to identify the same reference, according to Frege. Frege calls the difference between these sorts of twins a difference of tone or colour. Frege presents differences of force or of tone as things competent speakers of a language know about utterances, and so, according to the characterisation of meaning given above, it follows that such differences are differences in meaning. Frege's interest in these ingredients of meaning was minimal. He recognized the different ends towards which utterances can be made, but he was primarily interested in indicative sentences uttered with assertoric force. He recognized differences of colour only to set them aside as irrelevant to the scientific purposes of his system of logic.

Frege did not believe that force and colour exhaust the ingredients of meaning. In particular, he consistently denied that communication is a matter of expressing and grasping mental contents. Frege maintained a strict dichotomy between the radically subjective and the wholly objective, and he argued that the existence of sciences that could be communicated from person to person and from generation to generation ruled out the possibility of an account of meaning in terms of the radically subjective

psychological realm. While reference is objective and public, it cannot be the requisite ingredient of meaning. The required ingredient of meaning is provided by sense. Fregean senses are not mental contents; they are objects to which the mind is related, but they are independent of the mental; the senses of the words we use in communication are neither mine nor yours but independent of us both.

Frege held that every 'grammatically well-formed' expression has a sense (Frege 1892: 27) and that the sense of an expression can be grasped by many minds. Frege conceived of sense as an ingredient in meaning: the sense of an expression – word, phrase, or sentence – is part of what we understand when we understand the expression; it is part of the conventional significance of the expression. Frege says that 'a speaker must attach a sense to a name' (McGuinness 1980: 127), and he speaks of sense as what people associate with a word (Frege 1892: 29). To give the sense of an expression is to specify something that the speakers of the language grasp concerning it and to give a complete characterisation of what their grasp of it consists in.

Frege recognized that in natural languages expressions often have more than one sense; such expressions will not, of course, appear in an adequate *Begriffsschrift*. Just as an expression *should* have only one reference, so it should have only one sense (Frege 1892: 27f.). The demand that an

expression have only one sense is just the demand that an expression ought to make a uniform contribution to the sense of all sentences containing it: Frege maintains that the sense of a complex expression is determined by the sense of its constituent expressions (Frege 1892b: 33). For example, the senses of expressions that go to make up a sentence compose the sense of the sentence, what Frege calls the *thought* it expresses.

The connection between sense and reference, according to Frege, is that the reference of an expression is determined by its sense, and every sense determines at most a single reference. Given that a complete characterisation of sense specifies something that the speakers of a language know concerning it, and that sense determines reference, nothing belongs to sense except what is required to determine reference (for example, Frege's colour is not part of sense). This is the principle that is most closely related in 'Über Sinn und Bedeutung' to the problem of identity sentences. Sense determines reference, but the sense of an expression is only one mode of presentation of the referent out of possibly many such modes -- the sense only 'one-sidedly lights' the referent. But, since the sense of an expression determines its reference, and the referents of the constituent parts of the sentence jointly determine its truth value, the senses of the constituent parts of the sentence determine the condition for it to be

true, the sense of each being its contribution to the thought that that condition is fulfilled (Frege 1893: § 32).

Although Frege contends that every well-formed expression has a sense, he allows that we cannot be automatically certain that there is a corresponding reference. Expressions may or may not have referents, and if an expression lacks a referent, then so too does any complex expression in which that simpler expression occurs as a constituent. For example, Frege thought that 'Odysseus' did not have a reference; that the expression 'the celestial body most distant from the earth' has a sense, but possibly no reference, and that for the indubitably senseful expression 'the least rapidly convergent series' the lack of a reference can be proved since there can be no such series, (Frege 1892: 28, 32, 34; see also Hermes et al. 1979: 130, 194, 225, 233 etc.; McGuinness 1980: 165). This feature of Frege's theory accords well with his recognition that not all uses of language are aimed at telling the truth or expressing thoughts about reality. There is no reason to suppose that reference is required to explain non-indicative sentences, for example, commands and questions, or non-assertoric utterances, such as those found in fiction and poetry. Indeed, Frege denies that commands and questions can have a reference (Hermes et al. 1979: 252), and he also denies that all indicative sentences are truth-claiming or assertoric

(Frege 1893: § 2; Hermes et al. 1979: 185, 194, 187-188, 243).

Notoriously, Frege takes senses to be inhabitants of what, in 'Der Gedanke', he calls the 'third realm', as opposed to their being either psychological or physical.¹⁴ To safeguard the objectivity of thought, Frege conceived of them not only as eternal and immutable, but also as existing in complete isolation from us. Frege's failure to consider any intermediate category between the radically subjective and the wholly objective – say, the intersubjective – leads him to a naive platonism with respect to senses that is repugnant to many philosophers. A more pressing problem, however, is that it obscures how senses conceived of in this way attach to our linguistic practices, how we manage to express them or grasp them.

In accordance with this picture, Frege holds that truth and falsity primarily attach to thoughts and only derivatively to sentences (Hermes et al. 1979: 131; Frege

¹⁴ While the doctrine of the third realm is prominent in Frege's late essay, 'Der Gedanke', there is little evidence of it in his earlier writings and certainly none before he made the distinction between sense and reference. In the *Begriffsschrift* and other writings of the same period, Frege does not appear to have had any set doctrine about what sort of thing a content was. The first appearance of any such doctrine, in the restricted form of the claim that contents are objective, is in the unpublished 'Logik' that Frege wrote in the 1880's (Hermes et al. 1979: 7); but there is nothing in such a claim to objectivity that must be understood as an appeal to a platonistic third realm. To take the doctrine of the third realm as a guiding principle in the development of Frege's views on arithmetic, for example, is not only unnecessary, but also quite misleading.

1918/19a: 60-61), and that it is the sense and not the expression that primarily refers (Frege 1892: 27; McGuinness 1980: 63). This must be so if senses are logically independent objects. If it is possible to conceive of a sense otherwise than as the sense of some possible or actual expression, the association of a reference with it must accrue to it directly. Frege believed it possible to conceive of senses in this way; but he sheds no light on how this could be so, which is unsurprising, given that he also holds that for us, it is not possible to conceive of thoughts independently of some form of linguistic expression (Hermes et al. 1979: 269).

The conception of senses as inhabitants of a third realm does not, and probably cannot, play any role in the explanation of sense. This is not to say that Frege had no explanation of the notion of sense; in fact, he had a very good one. Frege always introduces sense as attaching to a particular utterance of a word or expression, and as something communicated by that utterance. Frege conceives of sense as determining reference. If sense is a route to the referent, the general notion of sense cannot be explained except by appeal to that of reference; we must therefore have the latter notion first. If the notion of the reference of an expression must come first, then possession of reference is not primarily a property of the sense, but of the expression. On this conception, it is not

thoughts, but particular utterances of sentences which are the primary bearers of truth and falsity.

Frege's account of the notion of sense in terms of reference results in a crucial role for truth, not only in logic, but also in the theory of meaning. At the same time, it maintains a central role for sentences in such a theory.¹⁵ A sentence is the smallest linguistic complex which one can use to say anything, and so the meaning of a word is to be given in terms of the contribution it makes to determining what may be said by means of sentences containing it. Frege's theory of reference provides an analysis of the way in which a sentence is determined as true or otherwise in accordance with its composition. And the sense of an expression is that ingredient of its meaning which is relevant to the determination as true or false of a sentence in which it occurs. For anyone who knows the language, to know the sense of an expression is to know

¹⁵ Before making the distinction between sense and reference, Frege had held that 'it is only in the context of a sentence that words have any meaning' (Frege 1884: § 62). However, as the theory of reference is set forth in *Grundgesetze*, sentences do not form a distinct logical category, but are classed as singular terms, distinct from the rest only in that they have truth values as their references. However, the only primitive objects of reference Frege specifies in *Grundgesetze* are the True and the False, and 'truth-value names' continue to play a central role, quite apart from any question of whether Frege continued to maintain the context principle after making the distinction between sense and reference.

everything relevant to determining its reference.¹⁶

4. Thoughts and Indexicals

Frege called what is expressed by a sentence a *thought*, and held that truth and falsity are predicated of thoughts absolutely; that is, they are either true at all times and in all circumstances, or they are false at all times and in all circumstances.¹⁷ This need not be viewed as a corollary of his later metaphysical views concerning thoughts; Frege offered a number of arguments for the absolute truth or falsity of thoughts, but each argument ultimately rests on two observations: (i) thoughts are what we report in indirect speech (e.g. belief reports), and (ii)

¹⁶ As Dummett (1991: 123; cf. also 1978: 121) points out, the reference of an expression follows from its sense together with relevant features of external reality. By 'features of external reality' Dummett means facts that are not known to the speakers in virtue of their knowledge of the language. Given a theory according to which the truth or falsity of a sentence is to follow from the reference of its components, the contribution of external reality has already been taken into account when we ascribe a reference to an expression. Hence, sense is not to be identified with reference: to know the sense does not require knowledge of the reference.

¹⁷ As was noted above, Frege did allow a third possibility: where there is a failure of reference, a thought may be expressed, but a complex thought which has as a constituent a sense which fails to present a referent also lacks reference. Such a thought has no truth value. While he was prepared to countenance such thoughts in discourse which is not 'serious' or 'scientific' (i.e. in discourse in which assertions are not being made), he considered the appearance of such thoughts other contexts as a serious defect.

we regard what a person said, believed, and so on, as capable of being said again by someone else, or at another time by the same person, without change of truth value. Frege's thoughts are meant to serve the same purpose as what are called in more common philosophical parlance, 'propositions'. Propositions have traditionally been held to be abstract objects which are timelessly true or false, and which serve as the meanings of declarative sentences and as the objects of propositional attitudes.

Frege's *Begriffsschrift* is intended to be a perspicuous vehicle for thoughts; hence Frege requires that the material part of the notation be selected carefully. To make a bad choice would let in sentences which are sometimes true and sometimes false - and sometimes neither. Frege believed that great care must be taken that vague predicates should be avoided, and that ambiguous expressions should be rooted out. While he never directly accuses verb tenses and indexicals of introducing problems of this kind, there is no place in Frege's *Begriffsschrift* for either type of expression.

Sentences involving indexical expressions can vary in truth value according to the circumstances in which they are uttered. It is not that Frege held that they therefore could not express thoughts; from his earliest writings to his latest, Frege evidently believed sentences containing

indexical expressions could express thoughts.¹⁸ Proponents of the classical doctrines about propositions have long recognized that sentences may be context dependent, but they take this to show that the propositional content of a sentence may vary from context to context. Different utterances of 'I am hungry' have different truth values, but this is because the sentence is used to express different timeless propositions on different occasions, and not because it expresses a proposition whose truth value may vary from occasion to occasion. However, certain elements of Frege's theory of sense and thought introduce complications which seem to prevent a straightforward adoption of this solution.

Most indexicals have associated with them an easily stated linguistic rule which determines the reference of a particular utterance of such a word in terms of certain aspects of the context. For example, the rule associated with the word 'yesterday' is 'yesterday refers to the day before today'. If this rule gives the meaning of 'yesterday' there appear to be two respects in which the rule is similar to a Fregean sense: first, it determines reference, and secondly, it gives the linguistic meaning of the expression. However, given Frege's conception of the

¹⁸ In 'Siebzehn Kernsätze zur Logik' (Hermes et al. 1979: 174) Frege writes of a thought expressed by the sentence 'This table is round'; in 'Der Gedanke' (1918/19: 65), he speaks of the thought expressed by Dr. Lauben's utterance of the sentence 'I was wounded'.

thought expressed by a sentence as composed of the sense of its constituent expressions, acceptance of a sense such as that given by the rule for 'yesterday' should be disastrous for the claim that thoughts are absolutely true or absolutely false. If the thought expressed by the sentence 'Yesterday was August 13, 1995' has such a constituent, it will be true on August 14, 1995 and false otherwise.

Some philosophers, for example, John Perry (1977, 1979) and David Kaplan (1989a), have argued that the problem presented to Frege's theory by indexicals requires a radical solution. Given the fact that indexicals already have meanings associated with them which determine their reference, there appears to be no room to attach a more orthodox Fregean sense to them, one which would determine reference absolutely. To force such an account would, in any case, go against the obvious truth that indexicals have meanings which are constant from circumstance of utterance to circumstance of utterance. Kaplan and Perry suggest that, to account for indexicals, the connection between sense and thought must be severed.

Given the tight interconnectedness of the elements of Frege's theory, any revision will clearly have far-reaching consequences. If Dummett is at all correct in his view that Frege provided a plausible theory of meaning, revisions should be made cautiously, lest the result be less acceptable than the original. Chapter II shows that the

theory advocated by Kaplan and Perry, which derives from a revision of the Fregean theory, but which is also explicitly anti-Fregean, has problems more serious than those that indexicals present for Frege's theory. Chapters III and IV show that a 'conservative extension' of Frege's theory can account for indexicals.

Chapter II

THE DIRECT REFERENCE THEORY OF INDEXICALS

In recent years, Frege's few, tentative remarks on indexicals have received a degree of attention that is quite out of proportion to the space they occupy in Frege's published and unpublished writings: his published thoughts on the topic amount to slightly more than two pages of his late essay, 'Der Gedanke' (Frege 1918/19a) – a total barely doubled in his posthumous writings. Despite the few words Frege devoted to the topic, the secondary literature attacking and defending the 'Fregean' view of indexicals has mushroomed in the last twenty years, largely in response to influential papers by David Kaplan (1989a) and John Perry (1977).¹ In the view of many philosophers, Kaplan and Perry have conclusively refuted the possibility of a Fregean

¹ Kaplan's paper, though widely distributed in pre-print form from the mid-1970's, was not generally accessible until its publication in Almog et al. (1989). In his published paper, Perry acknowledges Kaplan's influence on his view (1977: 493n 6).

account of indexicals. The few responses offered by Fregeans and neo-Fregeans have done little to slow an emerging consensus on the issue. However, this consensus rests on a mistaken interpretation of Frege. Moreover, Frege's critics can offer as an alternative only an unpalatable direct reference theory of indexicals.

Frege himself never put forward anything approaching a complete or adequate account of indexicals. He was not deeply interested in the topic, likely because it seemed peripheral to the logical and mathematical questions with which he was centrally concerned.² However, if Frege's theory is to form the basis of a theory of meaning for natural languages, it must not fail to account for indexicals. Not only are they ubiquitous, but if, as seems likely, there are some entities which cannot even be uniquely described without indexicals (e.g. the Sun is the star which gives us light and heat), a theory of meaning could not reasonably explain them away, say, in the manner of Quine's proposed elimination of proper names.³ If Frege's theory of sense and reference is to be applicable

² Some recent writers have emphasized the parallel's between non-logical constants in first-order languages of model theory and indexicals in natural languages (cf. Hodges 1985/86, Demopoulos 1994); with the benefit of hindsight, we might be tempted to say that Frege's complacency was unfounded.

³ In Chapter VII of *Inquiry into Meaning and Truth* (1940) Russell offers a number of unconvincing arguments for the conclusion that 'indexicals are not needed in any part of the description of the world, whether physical or psychological.'

beyond the fragment of natural language for which Frege primarily devised it, one of the phenomena it must be able to accommodate is indexicality.

1. Anti-Fregean Arguments

According to Kaplan and Perry, Frege's theory of sense stands in the way of an adequate theory of indexicals. They focus on four features of the theory of sense: (i) sense is supposed to be the 'mode of presentation' of the reference, that is, it is supposed to determine what the reference of an expression is; (ii) sense is supposed to account for the difference in cognitive value between coreferential expressions; (iii) the sense of a sentence is identifiable with the thought it expresses; and (iv) thoughts are supposed to have absolute truth values.

What is not objectionable is Frege's basic notion of a thought. Both Kaplan and Perry accept the explanatory necessity of abstract complexes which serve as the meanings of sentences and the objects of mental acts; however, Kaplan and Perry generally prefer 'proposition' rather than 'thought'. They also accept a compositional view of propositions which is based on a syntactic analysis ultimately owing to Frege. Finally, Kaplan and Perry agree that propositions are truth bearers, and that their truth

values do not vary from time to time, person to person, or place to place.

What is objectionable, according to Kaplan and Perry, is that Frege demands too much of his notion of sense: Frege's single notion of sense cannot simultaneously be mode of presentation, cognitive significance, and thought constituent:

Frege... mixed together... two kinds of meaning in what he called Sinn. A thought is, for him, the Sinn of a sentence, or perhaps we should say a complete sentence. Sinn is to contain both 'the manner and context of presentation [of the denotation],' according to 'Über Sinn und Bedeutung'.... Sinn is first introduced to represent the cognitive significance of a sign, and thus to solve Frege's problem: how can ' $\alpha = \beta$ ' if true, differ in cognitive significance from ' $\alpha = \alpha$ '. However, it is also taken to represent the truth-conditions or content.... (Kaplan 1989a: 501n 26).

The mistake involved in assimilating truth conditions with mode of presentation and cognitive significance is said to become apparent when we turn our attention to indexicals.

According to Frege's compositional view of thoughts, the sense of the proper name '2' and the sense of the concept expression ' ξ is a prime number' combine to form the thought that 2 is a prime number. The sentence '2 is a prime number' is the complete expression of a thought. Now

consider the sentences

- (1) Russia and Canada quarrelled when Nemtsanov
defected,

and

- (2) Russia and Canada quarrelled today.⁴

On the Fregean analysis, the clause 'Russia and Canada quarrelled', which is arrived at by removing the time specification from (1) or (2), is to be viewed as a concept expression. The clause stands in need of an object name (for a definite time) in order to become the expression of a thought. Similarly, the sense it expresses stands in need of the sense of an object name in order to become a complete thought.

By specifying a time, the expression 'when Nemtsanov defected' completes the sense of sentence (1). Presumably, 'today' must do the same for sentence (2). But suppose 'Russia and Canada quarrelled today' expresses something true on August 1 but false on August 2. If 'today' has the same sense on August 1 and on August 2, then the sense of 'Russia and Canada quarrelled today' must be the same on both days. But then the sense of the sentence must be incomplete, since Frege denies that a complete thought could

⁴ The example is Perry's (1977: 477-479), although it appears to be adapted from an example involving Prussia and Austria in 'Über Sinn und Bedeutung' (Frege 1892: 42n 14, 49). Frege in a number of places quite explicitly states his view that certain sentences of natural language which lack, for example, a time indication, do not express a thought (cf. Frege 1884: § 46; Hermes et al. 1979: 135).

change in truth value from one day to the next. Since Frege also seems to believe that we can get from an utterance of a sentence such as 'Russia and Canada quarrelled today' to a thought (Frege 1918/19a: 64), the indexical must provide a completing sense.

Perry argues that no such completing sense is to be found. He assumes that the appropriate completing sense 'would have to be intimately related to the sense of a unique description⁵ of the value [i.e., the referent] of the demonstrative in the context of utterance,' (Perry 1977: 485). Kaplan shares this assumption (Kaplan 1989a: 485, 505-6n 31, 514). Objections to descriptivist theories of meaning and reference have been a familiar part of the landscape in philosophy of language for the past twenty years. The form which such objections usually take involves charging that there is an important linguistic intuition which must be accommodated, and then constructing a hypothetical case to show that a descriptivist theory fails to accommodate it. Both Kaplan and Perry provide a wealth of such hypothetical cases, and subsequent authors have added many more. For the purpose of assessing the merits of these objections, a classification will prove useful:⁶ (i)

⁵ Perry and Kaplan take it that the description involved must be purely qualitative; that is, it must not involve any proper names or indexicals.

⁶ I owe this way of classifying anti-descriptivist arguments to David Martens (1994).

the modal objection, (ii) the duplication objection, and (iii) the ignorance objection (as applied to indexicals) closely parallel (respectively) discussions of names by Kripke (1980), of natural kind terms by Putnam (1975), and of definite descriptions by Donnellan (1967). Kaplan and Perry introduce two novel objections, specific to indexicals: (iv) the open-question objection and (v) the intentional action objection.⁷

We will begin with the modal objection. Kaplan argues that indexicals, like proper names and unlike definite descriptions, designate the same object in all circumstances; they are 'rigid designators'.⁸ So, 'given a use of the expression, we may ask of what has been said whether it would have been true or false in various counterfactual circumstances, and in such counterfactual circumstances, which are the individuals relevant to determining truth-value,' (Kaplan 1989a: 494). Suppose Kaplan points at Philby and says, 'That is a spy,' and the proposition thus expressed is true. Call this proposition 'Kim'. Now carry this proposition into a counterfactual

⁷ To the best of my knowledge, this list is exhaustive; that is, I am aware of no other types of objections. There are doubtless many versions of these of which I am not aware.

⁸ Obviously, the characteristic mark of an indexical is that its reference alters from context to context. Kaplan holds that context of utterance contributes to fixing the reference of an indexical, but once that reference is fixed, the truth or falsity of the proposition thus expressed is evaluated in a particular circumstance. Kaplan seems to use 'circumstance' interchangeably with 'possible world'.

circumstance in which: i) the sense Kaplan associates with the demonstrative – a description ('the F') of Philby – is satisfied by the individual pointed at, but the individual is only an ordinary Muscovite, not Philby; and ii) Philby remains as involved in espionage as he ever was. Kaplan claims that 'Kim' is true in the counterfactual circumstance, whereas the proposition expressed by either 'That is a spy' or 'The F is a spy' would be false. Hence, 'that' could not, on the relevant occasion, be associated with what 'the F' normally expresses; and the corresponding sentences could not have expressed the same propositions. In neither case is the demonstrative appropriately associated with a sense that is given by a definite description (cf. Kaplan 1989a: 512-517).

Perry's case of Hume and Heimson (1977: 487-488, 491-494) can be interpreted as a version of the duplication objection. This objection involves hypothetical cases in which there are a pair of objects which are qualitatively indistinguishable from the point of view of a particular thinker, and a thought that apparently refers to only one of the pair.⁹ Suppose that on a particular day in 1776, David Hume says, 'I am David Hume.' Suppose also that Heimson says, 'I am David Hume.' Finally, let us suppose that Heimson is Hume's twin earth counterpart, and that he is

⁹ Kaplan's cases of Castor and Pollux (1989a: 531) and the Sahara desert (1989a: 535) support the duplication objection.

type identical with Hume down to the last microparticle. Now the sentence that Hume and Heimson both utter, 'I am David Hume', has the same Fregean sense on both occasions, where that sense is understood as a purely qualitative definite description. But the thoughts expressed must be different, because they have different truth values. Hume's is true, Heimson's false. The moral we are to draw from this example is that the Fregean sense is not sufficient to determine which thought is expressed.

Another objection which has been influential against the Fregean notion of sense is the ignorance objection. This objection involves hypothetical cases of either of two sorts. In cases of the first sort there is a thought and an object; the thought involves a description or descriptive sense, the object does not satisfy the description, and the thought apparently refers to the object. Cases of this sort include those used by Donnellan as examples of 'referential uses' of definite descriptions (Donnellan 1967). In cases of the second sort, there is a thinker (who is not in a position to know any of the general qualities of a certain object), and a thought that apparently refers to the object, despite the thinker's inability to describe the object.¹⁰ Kaplan's case of the kidnapped heiress supports this objection. A kidnapped heiress, locked in the trunk of a

¹⁰ Anscombe's (1975) sensory deprivation and amnesiac cases are examples of the ignorance objection.

car, knowing neither the time nor where she is, may yet pick out a time and a place in thinking 'It is quiet here now,' (Kaplan 1989a: 536). However she manages to pick out the time and place, it is not in virtue of her grasp of a descriptive Fregean sense.

The open question objection involves hypothetical cases designed to make it plausible that, for any description 'the F', and any general quality 'G', I could believe that the F is G but fail to believe that I am G, even if I am the F. Perry's case of Lingens lost in the library can be interpreted as supporting this objection.¹¹ Lingens is an amnesiac lost on the fifth floor of the Stanford library. He has before him the ideal biography of one Rudolf Lingens, a description complete to the point that Lingens is said to have amnesia and is lost on the fifth floor of the Stanford library. Lingens might read through the entire biography without ever realizing, 'I am Lingens.' However much Lingens may know about Lingens, he can always be unaware of

¹¹ Perry's case of the aircraft carrier (1977: 483) and Kaplan's case of the writer who has lost track of the time also support this objection. The *locus classicus* for the open question objection is Castañeda's case of the editor of *Soul* (1966: 134-135). Another well-known version of the objection is David Lewis' case of the two gods, one of whom lives on the tallest mountain and throws down manna, while the other lives on the coldest mountain and throws down thunderbolts. Both are omniscient with respect to propositional knowledge, and each knows down to the last detail, exactly which possible world is actual. But neither knows which god he is. Lewis even conjectures that their omniscience helps explain their ignorance, since omniscient beings lack the kind of limited perspective that most of us have from which they might infer their own identities.

the fact that he is Lingens: the question 'Am I Lingens?' can always be raised.

The intentional action objection is originally raised in Perry's 1977 paper,¹² although the objection is presented with clearer examples and at greater length in 'The Problem of the Essential Indexical' (Perry 1979). This objection involves hypothetical cases in each of which there is an agent whose behaviour seems impossible to explain or predict in a way consistent with the Fregean theory of sense. Consider, for example, the belief I might come to have if I come to believe that I am inadvertently making a mess in a supermarket by spilling sugar out of my cart (Perry 1979: 3). If I come to believe that I am making a mess, my belief seems to contain an essential indexical element. This is shown by the fact that no paraphrase of my belief into nonindexical terms will capture exactly the belief that I am making a mess. I might circle the aisles following the trail of spilled sugar, trying to catch up with the person who is making a mess; but until I realize that I am making a mess, I will not take appropriate action.

These cases and others like them have been taken to strike a decisive blow against the possibility of a Fregean account of indexicals: so long as sense is understood as

¹² In 'Frege on Demonstratives', Perry's cases of the bear about to attack and of the meeting at noon support this objection (Perry 1977: 494). Kaplan endorses Perry's cases and adds some of his own in 'Demonstratives' (Kaplan 1989a: 532-533).

something that can be specified by a purely qualitative definite description, it cannot carry out all of the roles which Frege assigned to it.

2. The Direct Reference Theory of Indexicals

To account for indexicals, Kaplan and Perry propose to ramify the notion of sense: two theoretical devices are said to be required where Frege had only one. The character¹³ of an indexical is to serve as the mode of presentation of the referent. Character is not to be identified with a Fregean sense, first because it works together with the context to determine reference, and second, and more significantly, because the character of a word does not contribute to what is said. Unlike sense, character is not a thought constituent. The content of an indexical is its referent, and it is the content which is a component of the thoughts the word helps to express. It is this latter thesis which earns Kaplan and Perry's proposal its denomination as a direct reference theory. What, according to Kaplan and Perry, makes indexicals directly referential is not that the relation between word and object is unmediated, but that the very object referred to, rather

¹³ The terminology of character and content is Kaplan's. Perry's terminology varies; in (Perry 1977), the former notion is called 'role' and the latter 'value'.

than an abstract sense or mode of presentation, is involved in the thought expressed.

It has become commonplace to see the thoughts expressed using directly referential singular terms as 'Russellian singular propositions', a habit which probably owes more to Kaplan than to Russell.¹⁴ Kaplan explicitly credits Russell as the source of the 'metaphysical picture of the structure of a proposition' that results (Kaplan 1989a: 496).¹⁵ As Kaplan explains this picture, propositions - what-is-said in a given context - are held to be

structured entities something like the sentences which express them. For each occurrence of a singular term

¹⁴ For Frege, the complex of elements that composes a thought contains no element that could be regarded as part of the actual world: in fact, he once wrote to chide Russell for seeming to suggest that 'Mont Blanc with all 's snowfields, is ... a constituent of the thought that Mont Blanc is more than 4000 meters high,' (McGuinness 1980: 163). Kaplan and Perry would appear to endorse Russell's response: 'I believe that Mont Blanc itself, in spite of all its snowfields, is a constituent of what is strictly speaking asserted through the sentence 'Mont Blanc is more than 4000 meters high,' (McGuinness 1980: 169). If Russell's response was intended seriously, he did not hold for long that medium-sized physical object were constituents of propositions. His reason had to do with what he thought is involved in understanding a proposition: Russell believed that 'Every proposition which we can understand must be composed wholly of constituents with which we are acquainted,' (Russell 1912: 58), and that physical objects are not the sort of thing with which we are acquainted.

¹⁵ Kaplan cites 'the semantical parts of Russell's *Principles of Mathematics*' as the source of this picture. Kaplan admits that Russell himself rejected this account of the proposition by the time of 'On Denoting' but maintains that it can be saved with minor modifications aimed at addressing the difficulties which the 1905 paper identified in the earlier theory (but attributed to Frege's theory).

in a sentence there will be a corresponding constituent in the proposition expressed. The constituent of the proposition determines, for each circumstance of evaluation, the object relevant to evaluating the proposition in that circumstance. In general, the constituent will be some sort of complex constructed from various attributes by logical composition. But in the case of a singular term which is directly referential, the constituent of the proposition is just the object itself, (Kaplan 1989a: 494).

The point of appealing to such propositions is to account for the data highlighted in the modal, duplication, and ignorance cases.

On this picture, the time and the place of the kidnapped heiress's utterance are components of the proposition she expresses by saying 'It is quiet here now'. The characters of Hume's and Heimson's utterances of 'I am David Hume' are the same, but the propositions expressed on each occasion are distinct. One has Hume himself as constituent, the other Heimson.¹⁶ The proposition asserted on a given occasion by 'That is a spy' is also composed of an individual and a property. Thus, Philby is packed right

¹⁶ A peculiarity of direct reference is that speakers may no longer know what their statements are about. For example, the heiress does not know the time or place of her utterance. Nor is Heimson aware of whom his statement is about. Russellian singular propositions of the sort Kaplan advocates do not seem especially well-suited to combination with Russell's Principle (cf. n. 14)

into the proposition 'Kim' and carried into the counterfactual situation. So 'Kim' remains true, and the proposition expressed by the sentence 'That is a spy' in the counterfactual situation has not only a different truth value, but different constituents as well.

The direct reference theory denies sense a place in the proposition expressed by a sentence involving indexicals. Nor does the notion of character retain a place for anything that could be called Fregean sense. Because thoughts are supposed to be absolutely true or absolutely false, and since for Frege senses serve as thought constituents, it is necessary that Fregean sense determine reference 'absolutely', that is to say, independently of context. This is not the case with character. The direct reference theorist holds that every utterance of a particular indexical involves the same character, but this character is not sufficient to determine reference. Rather, character, along with the context of the particular utterance of the indexical, is said to determine reference.

Frege took sense to be (part of) the linguistic meaning of the expression with which it is associated. As we saw in the case of the word 'today', the ordinary linguistic meaning of an indexical will not alter from circumstance to circumstance, although what it refers to may. Hence, for Frege, the identification of sense and linguistic meaning must break down in the case of indexicals. On the other

hand, Kaplan and Perry do not face a similar difficulty in identifying character and linguistic meaning; indeed, Kaplan explicitly makes this identification (1989a: 505).

Finally, it is character so conceived which Kaplan and Perry take to play the role of cognitive significance (Kaplan 1989a: 530ff.; Perry 1979). According to the direct reference theory, the proposition expressed by the sentence 'Lingens is G' is exactly the same proposition Lingens would express by saying 'I am G'. But Lingens might assert the former sentence and deny the latter because he apprehends the subject of each sentence under a different character. Likewise, the proposition I believe when I believe that I am making a mess is exactly the same as the proposition I believe when I believe that, say, the only brown-eyed philosopher in Wolfville is making a mess. The solution to this problem offered by the direct reference theorist is to make a sharp distinction between the proposition believed and the belief state. Perry (1979) holds that a person believes a proposition in virtue of being in a certain belief state, that is, in virtue of apprehending that proposition under a particular character. However, belief states must not be confused with objects of belief, with propositions of the traditional kind. A particular instance of a belief state will determine a proposition, but it cannot be identified with it. The same proposition might be determined by different belief states, and the same belief

state may, in different circumstances, determine different propositions. The result is a theory according to which belief consists, not of a two-place relation between a subject and a thought, but of a three-place relation between a subject, a proposition, and a third entity, the character of the proposition.

The direct reference theory advanced by Kaplan and Perry is anti-Fregean in two key respects: (i) Frege's senses, which determine reference absolutely, are to be replaced by modes of presentation which may interact with the context of utterance to determine reference; and (ii) Frege's thoughts, conceived as the abstract senses of complete sentences, are to be replaced by Russellian singular propositions. There is a third respect in which Kaplan and Perry also take themselves to be in disagreement with Frege: they deny that the sense of a singular term, in particular of an indexical, is such that it can be stated by a purely qualitative definite description. Indeed, their arguments against the theory of sense and reference turn on their ascription of this view to Frege.

3. A Brief Fregean Response

The obvious response for a Fregean faced with the objections raised by Kaplan and Perry is to deny that the

Fregean sense of an expression must be given by, mean the same as, or be expressible in terms of a definite description. Others may have subscribed to such a view,¹⁷ but nothing in what Frege says requires that sense must be understood in this way. The chief text, for those who would attribute such a view to Frege, draws on a footnote to 'Über Sinn und Bedeutung':

In the case of an actual proper name such as 'Aristotle' opinions as to the sense may differ. It might, for instance, be taken to be the following: the pupil of Plato and the teacher of Alexander the Great. Anybody who does this will attach another sense to the sentence 'Aristotle was born in Stagira' than will a man who takes as the sense of the name: the teacher of Alexander the Great who was born in Stagira. So long as the reference remains the same, such variations of sense may be tolerated, although they are to be avoided in the theoretical structure of a demonstrative science and ought not to occur in a perfect language (Frege 1892: 27n)

Kripke (1980: 30) quotes this passage in the course of his attack on the description theory of proper names. The passage does show that Frege sometimes cited definite

¹⁷ Carnap, for example, held that the contribution of a singular term to the proposition containing it is a descriptive individual concept, construed as an amalgamation of properties (Carnap 1947: §§ 4-9).

descriptions as embodying the senses of proper names. But there is no passage in Frege's writings which advances the thesis that the sense of a proper name can always be so expressed.

Frege's remarks on 'I' in the late essay 'Der Gedanke' in fact suggest that Frege thought that the sense of a singular term cannot always be expressed with a definite description:

Now everyone is presented to himself in a special and primitive way, in which he is presented to no-one else. So, when Dr. Lauben has the thought that he was wounded, he will probably be basing it on this primitive way in which he is presented to himself. And only Dr. Lauben himself can grasp thoughts specified in this way. But now he may want to communicate with others. He cannot communicate a thought he alone can grasp (Frege 1918/19a: 66).

These rather startling remarks on the incommunicability of thoughts expressed using the 'I' of soliloquy cannot be combined with a descriptivist reading. Frege's remarks on indexicals may seem remote from Kripke's concerns; however, Kaplan and Perry both quote this very passage (Kaplan 1989a: 533; Perry 1977: 488-489). It should have been apparent to them that their assumption concerning senses and descriptions is extremely suspect.

Dummett has long denied that Frege held a description

theory of proper names.¹⁸ Given that there is nothing in what Frege says that requires he be interpreted in this way, Dummett charges that the ascription to Frege of the view that the sense of a singular term can be given by a purely qualitative definite description is extremely uncharitable:

Who could devise a description, framed in purely general terms, applying uniquely to the Sun, out of all the stars there are or ever have been or will be in the universe? The Sun is the heavenly body which gives us light and heat, which, for us is far the brightest in the sky: there is nothing in Frege's writings which warrants saddling him with the absurd theory that the sense we attach to the name 'the Sun' can be expressed by some definite description devoid of indexical expressions, (Dummett 1981: 85)

If Frege is not a descriptivist, the main premise of the Kaplan-Perry argument against Frege must be rejected.

Of course, it does not follow from the fact that Kaplan's and Perry's arguments are unsound that their conclusion is false; to show this, some account of what the sense of an indexical term consists in must be given. Such an account must be accompanied by an argument which defuses their objections, either by showing that the data appealed

¹⁸ See *Frege: Philosophy of Language* (Dummett 1973: 97-98, 110-111). The objections which Dummett there raises against the descriptivist reading of Frege are independent of the issue of indexicality.

to are wrong or irrelevant, or that they can be somehow accommodated. Whether such an account can be framed is an open question. However, considering the widespread agreement that the issue of a Fregean account of indexicals was *decisively* closed by Kaplan and Perry, this is no small advance.

4. Objections to Direct Reference

At first, it might seem ironic that some of the hypothetical cases constructed by Kaplan and Perry look very much like the sorts of examples Frege himself uses to introduce and motivate the distinction between sense and reference in *Funktion und Begriff* (1891) and 'Über Sinn und Bedeutung' (1892). Both the open question and the intentional action objections capitalize on the evident difference in mode of presentation between an indexical and a description or a name. How, given his rejection of Frege's notion of sense, can the direct reference theorist avail himself of the notion of a mode of presentation? Kaplan and Perry do so by equating the character of an indexical with its cognitive significance or mode of presentation. As it turns out, pointing out a difference in cognitive significance between an indexical and a definite description of the referent of some particular utterance of

it misses the mark when aimed at Frege's theory of sense. But this strategy does appear to present a neat solution, at least for indexicals, to certain persistent problems which have dogged direct reference theories.

Frege's theory of sense and reference is frequently presented as a response to certain puzzles concerning natural language.¹⁹ 'Über Sinn und Bedeutung' is undoubtedly the most widely disseminated and most thoroughly discussed of Frege's works. Discussions of sense and reference which begin with this work often present the distinction as originating in the need for solutions to puzzles concerning identity statements, empty names, and subsentential clauses including indirect speech, quotation, and so forth. For instance, a one-factor theory of meaning, according to which the meaning of a name is just its referent, does not appear to have the resources to account for the evident differences between the sentences 'Cicero is Cicero' and 'Cicero is Tully', or between the sentences 'Oedipus believes Jocasta is eligible' and 'Oedipus believes Oedipus' mother is eligible'. Taken in isolation 'Über Sinn und Bedeutung' might give the impression that Frege's

¹⁹ Although this way of presenting the distinction between sense and reference probably conveys a false impression of the place it holds in the context of Frege's philosophy, his discussion of the issue in 'Über Sinn und Bedeutung' does nothing to discourage this impression. By focusing exclusively on the puzzles of cognitive significance, the antipsychologistic thrust of Frege's notions of sense and thought is often obscured.

innovation in proposing his distinction was to introduce a two-factor theory of meaning, one which separates sense or meaning from reference, in order to resolve these puzzles.

For most of this century, the necessity of a two-factor theory of meaning went unquestioned. However, in recent years the old one-factor theory has undergone a revival in the works of those authors whose various theories Howard Wettstein (1986) has collected under the heading, 'the New Theory of Reference'.²⁰ The reversion to a one-factor theory has not been the result of anyone devising a novel solution to 'Frege's puzzles', but has coincided with the emergence of the anti-descriptivist arguments discussed above. On the assumption that the sense of a name must be *descriptive*, the two factor theory is ruled out. Of course, with the rejection of two-factor theories, the puzzles about identity statements and propositional attitudes reassert themselves as pressing problems.

These problems do not appear to arise on the direct reference theory of indexicals only because the theory

²⁰ Wettstein includes Donnellan, Kaplan, Kripke, Perry, Putnam, and himself in this group (1986: 185). However, some of the things Kripke says (see, for example, 1980: 20-21) make his inclusion in the list extremely dubious. Donnellan takes an approach in 'Speaking of nothing' which is suggestive of the view, but his concern is more with rigid designation than with anything approaching direct reference. Unless it is assumed that there is some kind of necessary connection between rigid designation and direct reference, which seems a questionable assumption given Kripke's views on the latter theory, the evidence for Donnellan's inclusion is hardly conclusive. Others who endorse the view are Mark Richard (1983), Nathan Salmon (1986) and Scott Soames (1989).

includes an element that can stand in for Frege's modes of presentation. What seems to have become the standard solution to the problems for the direct reference theory of names involves adopting a similar strategy, by including non-Fregean modes of presentation in the theory. But the resort to modes of presentation in the latter case is not an extension of the direct reference theory of indexicals. Indeed, there is reason to think such an extension is not feasible.

In his paper, Kaplan does offer a few explicit remarks concerning names – which he holds also to be directly referential – and how they are to be handled in terms of the theory of character and content. According to Kaplan, nonindexicals, including names, have a fixed character, so that the same content is invoked in all circumstances (1989a: 506). He suggests that in the case of proper names there is no useful distinction to be made between the two:

Because of the collapse of character, content, and referent, it is not unnatural to say of proper names that they have no meaning other than their referent....

If the content and the character of proper name words is as I have described it... then the informativeness of ' $\alpha=\beta$ ', with α and β proper names, is not accounted for in terms of differences in either content or character (Kaplan 1989a: 562).

This suggestion is extremely odd in view of the fact that

character is supposed to be cognitive significance or mode of presentation, and the content of a proper name is supposed to be just the referent itself. How could the mode of presentation of 'Cicero' be simply the man Cicero?

Standing in the way of an extension of the direct reference theory of indexicals to proper names is the fact that the latter do not have conveniently associated with them an easily statable linguistic rule. The modes of presentation appealed to by direct reference theories of names have a quite different source. Concentrating exclusively on 'Über Sinn und Bedeutung' it can seem plausible to characterize the criterion for the individuation of Fregean senses as holding that singular terms have the same Fregean sense if and only if they are interchangeable *salva veritate* in any propositional attitude context in which they are used. Conceived in this way, it is difficult to see how Frege's puzzles could show more than that something like sense or mode of presentation is required in an account of belief. An argument from the difference in belief state captured by a difference in sense to a difference in meaning appears to be lacking.

Accordingly, the most popular strategy for dealing with Frege's puzzles in a way consistent with a direct reference theory of proper names has been to adopt what Heck (1995) calls the *Hybrid view*, according to which

the contents of beliefs and other propositional

attitudes are characteristically *intensional*: the content of a speaker's belief that *a* is *F* may differ from the content of her belief that *b* is *F*, even if *a* is *b*. But, the story goes, the meanings of sentences are another matter: if the terms *t* and *u* are co-referential (and the predicate *F* is extensional), then the meanings of the sentences '*t* is *F*' and '*u* is *F*' cannot differ. So, for example, one's belief that Hesperus is Phosphorus may well have a different content from one's belief that Hesperus is Hesperus, though Hesperus is indeed Phosphorus.... On the other hand, the sentences 'Hesperus is Phosphorus' and 'Hesperus is Hesperus' have the same meaning, precisely because Hesperus is Phosphorus (Heck 1995: 79).

On the Hybrid view, the puzzles are not problems for the philosophy of language to solve, but are rather to be dealt with by a theory of propositional attitudes.

According to the Hybrid view, there is a clear distinction between issues relating to the theory of meaning and issues relating to the notion of sense or mode of presentation. Matters stand otherwise with the direct reference theory of indexicals: this theory equivocates on the question whether the meaning of an indexical is its character or its content. On the one hand, the character of an indexical is held to be a linguistic rule, 'known, explicitly or implicitly, by all competent users of the

language,' (Kaplan 1989a: 491 n.13), which is therefore to be accounted a kind of meaning (cf. Kaplan 1989b: 574-575). Yet on the other hand, the theory of character and content has associated with it the traditional view according to which the meaning of a sentence is a proposition which is composed of the meanings of its constituent parts; but the contribution an indexical makes to the proposition expressed by a sentence containing it, its *meaning* on that occasion, is just its referent.

Kaplan is not unaware of the equivocation. If forced to disambiguate the position, Kaplan would seem to favour the view that the meaning of an indexical is to be identified with its character:

Insofar as meaning is given by the rules of a language and is what is known by competent speakers, I would be more inclined to say in the case of directly referential words... that their reference is no part of their meaning (Kaplan 1989a: 520; cf. also 505).²¹

To take this tack, however, is to veer somewhat from the idea that we can represent the meaning of a sentence as given by the condition for it to be true. Of course, there are theories of meaning which reject this principle, but Kaplan and Perry would certainly not place their view among

²¹ Note that this opinion, combined with the view concerning proper names noted above, (viz. the identification in the case of proper names of character, content, and referent), appears to land Kaplan in a contradiction.

them.

The direct reference theory of indexicals has available its notion of a proposition to serve as the truth conditions of a sentence. But if the meaning of a sentence is its character and not the proposition it expresses, the connection between meaning and truth conditions appears to be severed. In recent work, Perry (1988, 1990; both reprinted in Perry 1993) has made a suggestion which may appear to retrieve the connection. He suggests that the character of a sentence gives its 'pure' truth conditions. For example, the sentence 'I am having a good time now', written on a post card with the signature, return address, and postmark illegible, is said to have the following truth conditions: 'the person who wrote the postcard was having a good time at the time he or she wrote it' (Perry 1993: 237). On this conception, different utterances of the sentence have the same 'truth conditions', even ones which differ in truth value. This oddity at least suggests that Perry does not arrive at these truth conditions in the usual way; a truth conditional theory would normally hold that the connection between meaning and semantic value lies in the fact that, given the way the world is, meaning determines semantic value. Perry allows as much, announcing that his 'truth conditions' adumbrate 'the conventions of English' (Perry 1993: 292). This hardly seems to be a promising basis for a theory of meaning. One point of constructing a

truth conditional theory of meaning is surely to explain such conventions, but Perry's 'truth conditional' theory is simply based on them. Despite Perry's attempt at maintaining the trappings of a truth-conditional theory of meaning, taking meaning to be given by character actually threatens the central connection between meaning and truth conditions.

The alternative of holding that the meaning of an indexical is its content is to adopt a stance that leaves meaning clearly related to truth conditions. This approach can be brought into accord with the Hybrid view by denying that the sort of 'meaning' given by character deserves to be so called, perhaps by appeal to the dictum, often attributed to Kripke, that what fixes the reference of a term is not part of its meaning. Now, while it may be acknowledged that the puzzles of cognitive significance raised by Frege are real and important, the Hybrid view holds that their solution does not lie within the province of the theory of meaning.

It might be thought that the notion of character at least retains its importance in the account of cognitive significance. However, character is not adequate to this role either. Kaplan says that the fact that

persons could be in the same total cognitive state and still, as we would say, believe different things... doesn't prove that the cognitive content of, say, a

single sentence or even a word is to be identified with its character, but it strongly suggests it (Kaplan 1989a: 531-532).²²

But all this fact shows is that cognitive significance is not to be identified with Kaplan's notion of content. The idea that it should therefore be identified with character faces a serious problem, in that utterances which have the same character can differ in cognitive significance.

Imagine two utterances of 'He was wounded', where a single individual is being referred to, but where it appears to both the speaker and those who hear the utterances that two different individuals are being referred to. One who understands these utterances might take them to differ in truth value; if someone takes two utterances to differ in cognitive truth value, then he must attach different cognitive significance to the utterances. Apparently, the way in which the referent of 'he' is presented in each of its utterances in this case must differ. However, if cognitive states are individuated in terms of character, Kaplan and Perry cannot recognize a difference in cognitive significance between the two utterances, since there is no difference in character (cf. Wettstein 1986: 195).

By exporting the puzzles concerning cognitive

²² Of course, Kaplan needs the identification of character and cognitive significance in order to show that the direct reference theory of indexicals can accommodate duplication and intentional action cases.

significance from the theory of meaning to the theory of propositional attitudes, the Hybrid view seems to yield an approach to meaning freed of some burdensome problems. There is, however, one outstanding problem to which such a theory of meaning gives rise. It seems reasonable to demand of a theory of meaning that it account for linguistic communication; but adopting a direct reference view of singular terms makes such an account arduous. In particular, singular propositions seem unsuited to be the sort of thing that is expressed and grasped by speakers of a language.

Consider the proposition Lois Lane expresses when she says, 'Superman lifted the piano'. The direct reference theory, according to which a particular individual is a component of the proposition thus expressed, would have it that it strictly follows from the proposition expressed, with no need for the further premise that 'Superman = Clark Kent', that 'Clark Kent lifted the piano'. Since the propositions expressed by the two sentences are identical, the inference could hardly be characterized as difficult or tricky. Yet, hearing Lois Lane's utterance, Perry White never makes the inference. Both Lois and Perry would surely deny that there is any such relation between the two (as they think) propositions; apparently she cannot have known what proposition she was expressing, and he cannot have grasped the proposition she expressed. Otherwise, a little

reflection on the proposition would reveal to them that any truth they might express about Superman is also a truth about Clark Kent.

Obviously, a theory of meaning which involves a direct reference account of singular terms is forced to give up the intuitively plausible assumption that the notion of meaning is intimately related to that of understanding. This plausible assumption lies behind the identification of meaning with character that is supported by Kaplan and Perry; the character of an indexical is something that competent speakers know in virtue of their command of the language. To know the content, it seems, is to know more than is required of a competent speaker.

Many defenders of the direct reference view have taken it as a consequence of their view that an 'account of linguistic meaning is no longer to be seen as an account of anything like what the competent speaker understands by his terms' (Wettstein 1986: 204). The theory of meaning is to be purified of all cognitive content, including that knowledge which constitutes mastery of a language. How can such a theory account for communication at all? This task also becomes largely the responsibility of a theory of propositional attitudes: successful communication is accounted as a hearer forming a belief that has as its object the same proposition that a speaker expresses in uttering a sentence.

Of course, the notion of belief appealed to cannot be that classical two-place relation between subject and proposition, but is rather a three-place relation between subject, proposition, and mode of presentation. The proposition is still the object of the belief, but a mode of presentation under which the proposition is apprehended is interposed between believer and object of belief. For successful communication to have occurred, on this account, a hearer must form a belief that has as its object the same proposition that a speaker expresses in uttering a sentence. In particular, the hearer must get the referents of any singular terms in the sentence right. Unless successful communication is to be purely accidental, it follows that the mode of presentation which the hearer associates with such a term must be sufficient to determine the correct reference. It is in this respect that the notion of character fails to suffice as mode of presentation. A less stringent demand on modes of presentation would leave it vague precisely which proposition is the object of a particular belief, and equally vague in what sense a mode of presentation is to be understood as the mode of presentation of a particular object or proposition. Whatever the merits of a theory of belief that leaves propositions in such an ambiguous position, it is clear that it will not work with an account of communication according to which success relates the hearer to the *same* proposition the hearer

expresses.

The requirement that the Hybrid view's modes of presentation determine reference is necessary, but not sufficient, for such a theory to be able to account for communication. The view is still subject to Frege's objection to psychologism: on the Hybrid view, our understanding of others will depend upon untestable hypotheses about the modes of presentation they associate with their words. According to this view, when a speaker makes an utterance, he thereby expresses a belief, and a significant part of the content of that belief – the part of it that the speaker grasps – depends on his personal understanding of those words. Similarly, a significant part of the belief a hearer forms upon hearing an utterance depends on her personal understanding of those words. If the hearer's understanding of what the speaker says depends on what is in her head, how can the speaker know, save by faith, that she understands him as he intends? It would be no use for the hearer to say what modes of presentation she associates with the words in question, for the speaker would still be in doubt whether he understood her explanation as she intended (cf. Dummett 1994: 155).

Nor would it be any use to appeal to the common meanings of the words which the Hybrid view does provide, for according to this view, meanings are not the sort of things grasped by either the speaker or the hearer. By

hypothesis, neither the speaker nor the hearer apprehends a proposition except under some mode of presentation. Holding that propositions are determined by modes of presentation goes some distance towards ameliorating the epistemic isolation of propositions, but so long as modes of presentation are held to be purely subjective, the account does not allow any way for the speaker or the hearer to know that successful communication has occurred.

Frege's theory of sense long ago pointed the way to resolving this difficulty, namely, a nonpsychologistic account of modes of presentation. A defender of the Hybrid view might concede the necessity of such an account, as well as the requirement that modes of presentation be conceived as determining reference, while maintaining that the view is still anti-Fregean by its retention of a strict separation between modes of presentation and meaning. At this stage, however, the difference between the Hybrid view and a Fregean theory of meaning begins to look merely verbal.

The problems of cognitive content are real and important; indeed resolving them is central to an account of language as an instrument of communication. The Hybrid view allows as much. Given this concession, it seems in order to ask again why these issues are said to fall outside the scope of the theory of meaning. If no rationale can be offered beyond the fact that the theory of meaning in question, involving as it does a direct reference theory of

singular terms, simply fails to address these issues in anything like an adequate fashion, the exclusion of cognitive content from the theory of meaning is revealed as little more than an ad hoc stratagem aimed at forestalling crippling objections to the direct reference theory. To overcome the strong intuitive relation between meaning and understanding, a much better rationale for relegating cognitive significance to the sidelines is required.

To conclude: taking the meaning of an indexical to be its content is acceptable only if we drop the intuitively plausible assumption that a theory of meaning should be closely connected with a theory of understanding. The direct reference theory of indexicals as it was originally propounded by Kaplan and Perry did not take this route; instead, it identified the meaning of an indexical with its character. But this proposal fails to give an adequate account of the cognitive significance of indexicals, it is not generalizable to singular terms of other kinds (e.g. proper names), and it threatens the connection between truth conditions and meaning. On either alternative, the direct reference theory of indexicals is distinctly unpalatable.

Chapter III

FREGE ON INDEXICALS

Frege's remarks on indexicals are few, and they are far from representing a complete and coherent account of this class of expressions. Evidently, he was not deeply interested in the topic, perhaps because he believed it to be peripheral to the logical and mathematical questions which were his chief concern. However, as Dummett (1981: 128) has noted, Frege's observations on this topic are of considerable interest for the light they shed on his conception of thoughts and senses; and these notions are central to the claim that Frege's theory of sense and reference is a plausible candidate to serve as the basis for a theory of meaning for natural languages.

This chapter considers three exegetical problems raised by Frege's remarks on indexicals: (1) the doctrine of incommunicable thoughts, to which Frege is led to by his reflections on the first person pronoun; (2) his view that by using correlative indexical expressions, different

sentences can be used on different occasions to express the same thought; and (3) the role of the accompanying circumstances, or context, in the expression or grasping of a thought expressed by a sentence involving indexicals.

The only place in Frege's writings in which he speaks of incommunicable thoughts is in the late essay, 'Der Gedanke' (1918/19a). Having started from the principle that sense is essentially something communicable, Frege must have gone astray in his development of this notion if he arrived at a view according to which there can be incommunicable senses. Proponents of the classical doctrines about propositions have long recognized that sentences may be context dependent, but they take this to show that the propositional content of a sentence may vary from context to context. Different utterances of 'Today it is cold' have different truth values, but this is because the sentence is used to express different timeless propositions on different occasions, and not because it expresses a proposition whose truth value may vary from occasion to occasion. However, certain elements of Frege's theory of sense and thought introduce complications which seem to prevent a straightforward adoption of such a solution to the problem of correlative indexicals. Context sensitivity is the hallmark of indexical expressions. Yet Frege denies that any feature of the realm of reference, including features of the context of utterance, are part of what is expressed by a

sentence. So how, on Frege's view, is context involved in the expression of thoughts expressed by sentences involving indexicals?

1. Incommunicable thoughts

Of the few passages in which Frege discusses indexicals, the one which has drawn the greatest attention is his discussion of the first person pronoun in 'Der Gedanke' (1918/19a). Frege's remarks on 'I' raise several problems, the most pressing of which concerns the apparent conflict between these remarks and Frege's dictum that thoughts are essentially public, a 'common store' which is transmitted from person to person and from generation to generation. The offending remark is the following:

Now everyone is presented to himself in a special and primitive way, in which he is presented to no-one else. So, when Dr. Lauben has the thought that he was wounded, he will probably be basing it on this primitive way in which he is presented to himself. And only Dr. Lauben himself can grasp thoughts specified in this way. But now he may want to communicate with others. He cannot communicate a thought he alone can grasp. Therefore, if he now says 'I was wounded', he must use 'I' in a sense which can be grasped by others,

perhaps in the sense of 'he who is speaking to you at this moment'; by doing this he makes the conditions accompanying his utterance serve towards the expression of a thought (Frege 1918/19a: 66).

Frege does not explicitly affirm or deny that the 'special and primitive' mode of presentation is one that can be expressed linguistically. However, for the sake of convenience, and without presuming an answer to this question, call the special and primitive mode of presentation the sense of 'I' in soliloquy, and the sense of 'I' which can be grasped by others the sense of 'I' in communication. If it is the sense in soliloquy that is in question, Frege says that the thought of which it is a constituent is one that only the person who has it can grasp.

How could Frege have failed to see that his views on 'I' constitute a lapse in his antipsychologism? It is hard to see how Frege could have supposed that he could make out a thesis involving incommunicable yet non-psychologistic thoughts without appealing to the crudely platonistic picture of thoughts he first introduces in 'Der Gedanke' (Frege 1918/19a: 69).¹ Frege always maintained a sharp division between that which is wholly subjective – the contents of the mind – and that which is entirely objective.

¹ For an illuminating discussion of this aspect of Frege's notion of sense and thought, see Dummett's paper 'Frege's myth of the Third Realm' (1991: 249-262).

Since it is impossible to communicate what is wholly subjective, Frege denied that thoughts are contents of the mind. The step which seems to have brought Frege to the doctrine of 'the third realm' followed from the view that if thoughts are not contents of the mind, they must be located in a compartment of reality distinct both from the physical world² and the inner world of private sensation.

In 'Der Gedanke', Frege takes the distinction between contents of the mind and thoughts to be based on the difference between that which one owns – ideas – and that which one must grasp – senses (Frege 1918/19a: 69n 7). In many passages, Frege insists that thoughts do not depend for their existence on being thought, grasped, expressed, or judged to be true or false, and he remarks on the suitability of the expression 'to grasp a thought' on the grounds that one can only grasp what is already there (Frege 1893: xxiv; Hermes et al. 1979: 137). In the passage quoted above, Frege is explicit: thoughts which include the sense of 'I' in soliloquy are grasped. Frege is clearly thinking of the 'special and primitive' sense of 'I' in soliloquy as something which is already there, as something objective.

In his remarks on 'I', Frege commits himself to the existence of thoughts which are independent of the existence of anyone (no one is their owner), but which only some

² Frege held that thoughts are distinguished from physical bodies in being non-spatial and atemporal (Hermes et al. 1979: 148).

particular person can grasp. Of course, it is somewhat obscure how the existence of a thought that only some particular person can grasp can be independent of that person's existence. If that person had never existed, it would be a thought that no thinking being could have grasped. Equally obscure is the claim that thoughts involving the sense of 'I' in soliloquy are incommunicable. The idea that a sentence expressed using the first person pronoun is one that the hearer in some way fails to understand is extremely implausible. Suppose Lauben said to himself, 'I was wounded', and then said to someone else 'I was wounded'. There are no good grounds for saying that one who heard both utterances would understand the latter while failing to understand the former. Perhaps the view could be defended by claiming that thoughts involving the sense of 'I' in soliloquy are strictly incapable of linguistic expression. However, this would run directly counter to Frege's view that, for us, a thought must be connected with some form of linguistic expression; while he once allowed that there is no contradiction in supposing the existence of beings capable of grasping a thought without needing to 'clad it in a sensible form', he denied that we are such beings (Hermes et al. 1979: 269).

The only kind of objectivity which Frege seems able to secure for the sense of 'I' in soliloquy is the obscure variety of objectivity which attaches to inhabitants of the

third realm. When the issue is considered from the perspective of what is required for communication to be possible, Frege's private sense for 'I' is clearly subjective. Moreover, the subjectivity which attaches to this sense is of just the sort that Frege objected to in psychologistic accounts of content. In an undated letter to Jourdain,³ Frege wrote that

if the sense of a name was subjective, then the sense of the sentence in which the name occurs, and hence the thought, would also be subjective, and the thought one man connects with this sentence would be different from the thought another man connects with it; a common store of thoughts, a common science would be impossible. It would be impossible for something one man said to contradict what another man said, because the two would not express the same thought at all, but each his own.

For these reasons I believe that the sense of a name is not something subjective [~~crossed out: in one's mental life~~], that it does not therefore belong to psychology, and that it is indispensable (McGuinness 1980: 80).

While it may be possible to argue on Frege's behalf that a single kind of incommunicable thought does not compromise

³ The editors of Frege's correspondence identify the letter as an early draft of the letter to Jourdain of January 28, 1914 (McGuinness 1980: 78).

the very possibility of communication, such an argument has the air of special pleading.⁴ Frege's objection to psychologism makes it clear that what he finds pernicious in the view is not its location of sense in the mental realm per se, but the subjectivism he sees it as leading to.

Frege's views on 'I' provide the most extreme illustration of a problematic feature of his discussion of sense and thought in 'Der Gedanke'. The source of the trouble is the way in which the notion of sense as mode of presentation is employed in this work; he explains the sense of an expression as the way in which its referent is given to a particular individual. Indeed, Gareth Evans takes 'Der Gedanke', and in particular the passage concerning the first person pronoun, as underwriting a reading of Frege according to which the metaphorical language of 'modes of presentation' is to be replaced with more literal talk of 'ways of thinking', that to grasp the sense of an expression is to think of its reference in a certain way (Evans 1982: 16).⁵ Whatever its deficiencies as an interpretation of Frege's notion of sense (and they are many), what Frege says

⁴ Gareth Evans attempts such a defence in 'Understanding Demonstratives' (1979).

⁵ Evans appears to give little weight to Frege's oft-expressed antipsychologism concerning sense. In Evans' view, the sole purpose of introducing the notion of sense was to account for certain notions we employ in 'ordinary propositional attitude psychology,' including cognitive value, knowledge, thought, understanding, and so forth (Evans 1982: 13, 18, 19, 24).

about incommunicable thoughts does little to discount it. Indeed, it seems quite natural to say that the way I think of myself is different from the way anyone else thinks of me, and that if it is this way of thinking that is a constituent of thoughts I have about myself, it is no wonder that no one else can think them.

If we are primarily concerned with the way in which a particular thinker thinks a thought, our primary concern is with thoughts conceived of as the objects of belief. An assertion expresses the way the speaker thinks what the assertion is about. That this conception of thoughts is uppermost in Frege's mind when he makes his remarks about 'I' is borne out by the two paragraphs which precede it. In these paragraphs, Frege gives an example intended to show that different thoughts may be obtained from the same sentence, even a sentence which is apparently unambiguous and which contains no indexical words. Frege gives us the case of Dr. Gustav Lauben, whom Leo Peter identifies by his present occupation and residence, but whom Herbert Garner identifies by his date and place of birth. According to Frege, this entails that each of them expresses a different thought when he says 'Dr. Gustav Lauben has been wounded'. Frege goes so far as to say that in this case, 'Herbert Garner and Leo Peter do not speak the same language' (Frege 1918/19a: 65). The picture of sense which Frege gives in this case is one in which the senses of proper names vary,

strictly speaking, from speaker to speaker, and where there is no community-wide sense but only a community-wide reference, and in general, names are peculiar to idiolects.

By arguing in this way, Frege waters down his own pervasive insistence, in 'Der Gedanke' and elsewhere, on the communicability of thoughts. An account of language which proceeds in this way, even if it is not psychologistic, is subject to the same objection Frege brought against psychologism. On such an account, the possibility of communication can only be explained by invoking the assumption that the senses which any speaker attaches to his words are essentially similar to those which most other speakers attach to their words. That successful communication occurs becomes, to some extent, a matter of faith. Even if some account of the relevant similarity is provided, there is no single thought expressed by the sentence 'Cicero is Tully', and there is no single fact 'that Cicero is Tully' which is known by some, but not all, members of the community. For a thought to play the role Frege expected it to, as the content of an indicative sentence uttered with assertoric force which can be communicated to a hearer without residue, a conception of sense less closely tied to an individual's way of thinking must be called upon, for it seems to lead to the unpalatable view that we use proper names such as 'Cicero', 'Venice', and 'Jupiter' with differing senses and for this reason do

not strictly speaking, speak a single language.

So far as scientific assertions are concerned, Frege seems well aware that it will not do to first explain what it is for a single individual to attach a particular sense to an expression – for example, 'the Pythagorean theorem' (cf. Frege 1918/19a: 68) – and then state what it is for her to be correct in doing so, as far as the language spoken by the community is concerned. To maintain that thoughts are communicable, what is required is an explanation of what it is for a word to have a certain sense in the common language, and an explanation of what it is for an individual speaker to understand it rightly or wrongly. And, as Dummett has observed, for the objectivity of thoughts to be safeguarded without appeal to a platonistic mythology,

language must be conceived as a social institution, as the common possession of the members of a community. This accordingly requires that a theory of meaning should first explain what it is for the expressions of a common language such as Italian, English, Malay, etc., to have the meanings that they do, and only then, by appeal to that explanation, go on to explain in what an individual's grasp of such a language may consist...

(Dummett 1994: 147).

If we are concerned with exactly what belief a speaker expresses by means of a sentence, it is the speaker's private understanding of the words that determines this.

However, if thoughts are conceived of as the objects of belief, and if thoughts are to be described as the senses of sentences, then sense should not be equated with any ingredient of meaning in the common language; it must rather be the content of private understanding. Hence, what a speaker's utterance means depends on the correct use of the words in the common language. But the precise content of the belief that he thereby expresses depends on his personal grasp of those words.

Thus, part of the problem with Frege's presentation of the notions of sense and thought in 'Der Gedanke' derives from his failure to make anything like the distinction between speaker's meaning and linguistic meaning. However, recognizing this distinction still does not resolve all of the obscurity in Frege's remarks in these paragraphs. Where Leo Peter's personal understanding of the name 'Dr. Gustav Lauben' might be said to play a role in an account of that individual's beliefs, it is not readily apparent how an ineffable sense of 'I' could play a similar role. The role of an incommunicable thought or of a purely private mode of presentation in the explanation of communication or of individual belief remains quite obscure. What seems clear is that Frege's doctrine of incommunicable thoughts was a mistake, and that Frege was led into this mistake by his conception of the sense of an expression as a mode of presentation, understood as a way of thinking of its

referent.

Colin McGinn (1983: 53) has suggested that the communicability of thoughts expressed using 'I' can be maintained along with the conception of modes of presentation as ways of thinking. McGinn argues that Frege's claim that 'everyone is presented to himself in a special and primitive way' is ambiguous between (i) the claim that each person is presented to herself by means of *distinct* special and primitive modes of presentation, and (ii) the claim that there is a *single* special and primitive mode of presentation common to everyone. McGinn claims that nothing in what Frege says settles the exegetical question arising from this ambiguity. However, it is hard to see how Frege's contention that thoughts involving the sense of 'I' in soliloquy can only be grasped by the person referred to fails to settle the question in favour of (i). On (ii), there seems to be no obstacle to grasping the thought Lauben thinks to himself: the sense contained in his thought is the same as that which accompanies anyone's thought involving the sense of 'I' in soliloquy. While the exegetical evidence is against McGinn, the linguistic issue favours a decision against Frege and in favour of (ii), on which the mystery of incommunicable thoughts is dissolved, and the necessity of distinguishing two senses of 'I'

recedes altogether.⁶ Such an account of the mode of presentation associated with 'I' has the distinct advantage of being compatible with what Frege wanted thoughts for: to explain the transmission of knowledge from person to person, and from generation to generation.

However, such a mode of presentation is not sufficient to determine a unique reference. If everyone expresses the same mode of presentation when he or she uses 'I', then that sense will not be fine-grained enough to differentiate the various thoughts of which it could be a component. A mode of presentation of this kind is not a Fregean sense. Something more is required in order to individuate those thoughts which involve such a mode of presentation; but Frege held that sense alone determines reference. As an account of the Fregean sense of 'I', McGinn's proposal at the very least falls short. Whether it ought to be pursued, however, is dubious given that it fails to accord with what Frege says about thoughts expressed using correlative indexicals.

⁶ The position thus arrived at is one which Dummett has advanced independently (1981: 120-122; 1991a: 320-321; 1994: 140). However, Dummett never suggests, as McGinn does, that the issue is one on which Frege might be given the benefit of the doubt; he regards the claim that there is associated with 'I' a single special and primitive mode of presentation common to everyone as an emendation of Frege's own, mistaken doctrine.

2. Correlative Indexicals

According to classical views on propositions, it is recognized that sentences may be context dependent, but this is held to show only that the propositional content of a sentence may vary from context to context. Different utterances of 'Yesterday was Colville's birthday' have different truth values, but this is because the sentence is used to express different timeless propositions on different occasions, and not because it expresses a proposition whose truth value may vary from occasion to occasion. Frege apparently wishes to employ his notion of a thought in similar fashion. In 'Der Gedanke', he says of the words 'yesterday' and 'today':

If someone wants to say today what he expressed yesterday using the word 'today', he will replace this word with 'yesterday'. Although the thought is the same its verbal expression must be different in order that the change of sense which would otherwise be effected by the differing times of utterance may be cancelled out. The case is the same with words like 'here' and 'there' (Frege 1918/19a: 64).

Frege made a similar point in the manuscript 'Logik', written in the 1890's. But there, the suggestion was that the same thought one person could express using 'I' - for example, 'I am cold' - could be expressed by another person

'using a name to designate the one who feels cold' (Hermes et al. 1979: 135).

However, with respect to sentences involving 'I', Frege appears to have changed his mind by the time he wrote 'Der Gedanke'. Immediately after stating the doctrine for 'yesterday' and 'today' which corresponds to his remarks concerning 'I' in the earlier work, he says that 'the occurrence of the word 'I' in a sentence gives rise to some further questions' (Frege 1918/19a: 65). Among the considerations he has in mind is the suggestion, discussed above, that certain thoughts involving 'I' are incommunicable. Just before this, however, Frege makes a point about 'I' that seems quite independent of his discussion of incommunicable thoughts, namely, that a thought expressed with 'I' cannot be identical with a thought expressed using a proper name.

The example Frege uses to illustrate this point again involves Dr. Gustav Lauben; but this time, we are to suppose that both Leo Peter and Rudolf Lingens attach the same sense to the name 'Dr. Gustav Lauben', so that for each, the sentence 'Dr. Gustav Lauben was wounded' will express the same thought. Moreover, both Peter and Lingens are present when Lauben says, 'I was wounded'; again, both grasp the same thought. However, Lingens does not know that it was Dr. Lauben who said this. So when Peter says at some later time, 'Dr. Gustav Lauben was wounded', Lingens cannot know

that the same affair is in question. Therefore, Frege says, 'the thought which Leo Peter expresses is not the same as that which Dr. Lauben expressed' (Frege 1918/19a: 65).

Frege does not quite make the general point, but perhaps deserves some credit for anticipating Castañeda's (1966, 1967) celebrated discovery of the ineliminability of indexicals: a sentence containing an indexical cannot be paraphrased by a sentence with a coreferential proper name (or indexical-free description) replacing the indexical, and yet retain the same content. At the very least, Frege's example demonstrates a clear recognition that his earlier view was mistaken.

Frege's presentation of the case does nothing to support the idea that Leo Peter and Rudolf Lingens would have been any better off had they employed correlative indexicals rather than the name 'Dr. Gustav Lauben' in attempting to express the same thought he did by saying 'I was wounded'. On the proposal canvassed at the end of the previous section, Frege's distinction between the sense of 'I' in soliloquy and the sense of 'I' in communication was rejected, and it was suggested that a special and primitive mode of presentation common to everyone is associated with 'I'; therefore, it is possible to grasp or understand someone else's thought expressed using 'I', to know *what* thought it is. However, it is not possible for anyone other than the person concerned to think it or express it. The

100

A resolution test chart featuring various patterns of horizontal and vertical lines of different thicknesses. Numerical values are placed next to the patterns, indicating resolution levels. The values include 1.0, 1.1, 1.25, 1.4, 1.6, 1.8, 2.0, 2.2, 2.5, 2.8, 3.2, 3.6, 4.0, 4.5, 5.0, 5.6, 6.3, 7.1, 8.0, 9.0, 10, 11.2, 12.5, 14, 16, 18, 20, 22.5, 25, 28, 32, 36, 40, 45, 50, 56, 63, 71, 80, 90, 100, 112, 125, 140, 160, 180, 200, 225, 250, 280, 320, 360, 400, 450, 500, 560, 630, 710, 800, 900, 1000, 1120, 1250, 1400, 1600, 1800, 2000, 2250, 2500, 2800, 3200, 3600, 4000, 4500, 5000, 5600, 6300, 7100, 8000, 9000, 10000.

conclusion that Leo Peter could no more express the thought Lauben did by saying 'He was wounded' or 'You were wounded' than he could by saying 'Dr. Lauben was wounded' seems irresistible.

Nor is there any reason to think that we are better off with thoughts expressed using 'yesterday' and 'today', if we suppose that the senses associated with these words are 'ways of thinking' of a day. Words such as 'today' and 'yesterday', 'here' and 'there', appear to present cases of words which have different senses which determine the same reference. In each case, the linguistic rule associated with the word differs markedly from that of its correlative term; if this difference reflects a difference in 'ways of thinking' of days or locations, it would seem to follow that there is a difference in sense. So, just as 'Batman' and 'Bruce Wayne' express different modes of presentation of the same person, it would seem that 'today' said yesterday and 'yesterday' said today should be said to express different senses, to present the same day in different ways. If we adhere at all strictly to the principle that thought constituents are modes of presentation, construed as ways of thinking of a reference, it appears that Frege's doctrine concerning correlative indexicals simply cannot be maintained. The distinct contributions such senses make to the thoughts in which they occur would mean that the thoughts expressed would also be distinct, even though both

are about the same day.

Evidently, something is amiss with this interpretation of Frege. In the previous section, an attempt was made to make the best of Frege's remarks on the 'special and primitive' mode of presentation which he associates with 'I'. But in this section, it has turned out that a conception of sense as a way of thinking of the reference cannot be made consistent with Frege's opinion that the same thought can be expressed by distinct utterances involving suitably correlated indexical expressions. Something must give.

The problem presented by correlative indexicals is the converse of that most obviously associated with indexicals, namely that with them the same declarative sentence can be used to express one thought or another, depending on who utters it, when and where it is uttered, and so forth. Frege's view on correlative indexicals, however, requires that different sentences can express the same thought. That Frege himself believed this to be possible is shown by his view that words which differ in tone or colour may yet have the same sense, and that a sentence in one language can express the same thought as a sentence in a different language (cf. Hermes et al. 1979: 141). Doubtless, the words used millennia ago to express the Pythagoreans' discovery that the diagonal of the unit square is not a ratio of whole numbers differed in both respects from those

a modern student would use to express the same thought. Nonetheless, the thought each expresses is the same.

Sometimes, Frege claims identity of content or thought expressed for pairs of sentences for which he should not. Amongst these are

A1. a is parallel to b .

A2. The direction of a = the direction of b (Frege 1884: § 64).

B1. For every a , $f(a) = g(a)$.

B2. The value-range of f = the value-range of g (Frege 1891: 11).

C1. Jupiter has four moons.

C2. The number of Jupiter's moons is four (Frege 1884: § 57).⁷

David Bell (1987) has charged that Frege's view that each of these pairs expresses the same thought induces an incoherence in Frege's theory of thought.

It is integral to the very idea of the theory of sense and reference that every unambiguous sentence has a unique function-argument analysis. Different sentences of natural language can of course express the same thought: a sentence

⁷ Cited in (Dummett 1989: 292-293).

may be transformed, without altering the thought expressed, so that its verb is changed from active to passive and its object becomes the new subject. Frege held that such distinctions are irrelevant to logic, and hence any two such sentences may be represented by the same symbolic formula. It is to this formula that Frege's theory of reference and sense directly applies.⁸ Frege also maintained that a thought is isomorphic with the sentence whose sense it is. This thesis is implicit in his doctrine that the sense of a part of a sentence is a part of the sense of the whole, and explicit in remarks such as this one from the opening paragraph of 'Gedankengefüge', concerning the extraordinary power of language to express an incalculable number of

⁸ There is no inconsistency between claiming for each unambiguous sentence a unique function-argument analysis and granting that different sorts of structure may be ascribed to sentences according to different schemes of analysis. A phrase structure grammar would give an analysis of the sentences 'Scott wrote *Ivanhoe*' and '*Ivanhoe* was written by Scott' according to which their structures differ; for instance, the nouns which are the subjects of each are 'Scott' and '*Ivanhoe*', the verb phrases are not the same, and so forth. A successful phrase structure grammar will tell us that both sentences are properly constructed and will lay out the grammatical form of each by breaking it down into its component phrases. But it will not tell us that the two sentences are in some sense equivalent, and that their equivalence is a matter of the grammar of sentences. Linguists call what a phrase structure grammar gives an account of the surface structure of a language. The two sentences differ in surface structure, but their similarity is to be explained as a result of their sharing the same deep structure. A plausible pattern for the analysis of deep structure is that first provided by Frege. Indeed the idea of a transformational grammar is to provide an account of how surface structure depends on an underlying structure of this kind.

thoughts, including thoughts no one has entertained before, with only a small stock of words:

This would not be possible if we could not distinguish in the thought parts to which the parts of the sentence correspond, so that the construction of the sentence could serve as a picture of the construction of the thought (Frege 1923/26: 36).

The structure in question is, of course, that revealed by a function-argument analysis. Taken together, these two theses imply that every thought has a determinate structure corresponding to that of a (canonical) sentence expressing it.

Hence, any example of two sentences with different structures that express the same thought threatens Frege's view. Citing pairs like A, B, and C, Bell argues that Frege was committed to the claim that certain pairs of sentences with 'radically different function-argument structures' (1987: 45-46) can express the same thought, and that Frege's views on thoughts are therefore incoherent. Bell's charge appears to be well-founded: the second member of each pair A, B, and C involves a concept – that of a direction, a value-range, or a number – that the first does not.

Dummett (1989) defends Frege by first acknowledging the incoherence, but arguing that Frege came to reject the claim that each of the pairs expresses the same thought. He notes that in *Grundgesetze*, Frege nowhere claims that the two

sides of Axiom V (the two members of pair B) express the same sense.⁹ Dummett suggests that Frege may have been misled into thinking that the pairs A, B, and C express the same thought by his criterion for two sentences expressing the same thought: that anyone who grasps the thought expressed by each of a given pair of sentences must immediately recognize one as true if he recognizes the other as true. A, B, and C all satisfy this criterion.

What Frege did not realize, according to Dummett, is that this criterion is a necessary, but not a sufficient condition for sameness of thought expressed. In particular, it is not sufficient in cases such as A, B, and C, where one sentence involves a concept that the other does not. But if understanding one sentence requires knowledge of a concept that the other does not, the two sentences cannot express the same thought. Frege is implicitly committed to this

⁹ For a contrary opinion, see (Simons 1992: 764). Sluga (1986) has also argued that in *Grundgesetze* Frege continued to maintain that B1 and B2 express the same sense. Each draws on the same passage in § 3 to support this claim. When Frege introduces the permutation argument, he says that because X is a bijection of all objects, ' $X(\xi\Phi(\xi)) = X(\xi\Psi(\alpha))$ ' is *gleichbedeutend* with ' $\forall x (\Phi(x) = \Psi(x))$ '. Sluga rather implausibly maintains that Frege used the word '*gleichbedeutend*' to signify 'having the same sense'. A more conventional translation would render the word as 'co-referential'. Simons draws instead on a footnote to the claim that the two expressions are co-referential, where Frege cautions 'That is not to say that the sense is the same'. Simons takes this to suggest that the sense of ' $(\xi\Phi(\xi)) = (\xi\Psi(\alpha))$ ' is the same as that of ' $\forall x (\Phi(x) = \Psi(x))$ ', and to thus constitute a hint at the doctrine stated in *Funktion und Begriff*. If the threat to his view rests on evidence so slender, Dummett need not worry.

principle by his frequent assertions that the sense of a part of a sentence is a part of the thought expressed by the sentence as a whole. In case of a conflict between Frege's criterion for sameness of thought expressed and this principle, Dummett contends that it is the latter which should take precedence. Since possession of the concept is essential to a grasp of the thought, on Frege's view, the thought cannot be identified with one that can be grasped by someone who does not possess the concept.

Dummett may well be correct in his view that by the time he wrote *Grundgesetze*, Frege had given up his claim that the pairs of sentences A, B, and C express the same thought. But in 'Der Gedanke', written toward the end of his life, Frege still maintained that sentences involving correlative indexicals can express the same thought. It is evidently Frege's view that the sentence I uttered yesterday using the word 'today' and the corresponding sentence I utter today using 'yesterday' can satisfy his criterion for two sentences to express the same thought. Nor is there anything particularly controversial in supposing that, in the circumstances stated, anyone who grasps the thought expressed by each of 'Today is August 29, 1995' and 'Yesterday was August 29, 1995' must recognize one as true if he recognizes the other as true. Hence, in favourable circumstances – no more favourable than is required to make what is said unambiguous – sentences involving correlative

indexicals can satisfy Frege's criterion for two sentences to express the same thought.

Frege's views on this topic do not fall prey to precisely the same objection that attaches to the claim that the pairs A, B, and C express the same thought. Changing the pronoun which occupies the subject position in a sentence, for example, is not the sort of transformation that invokes a concept that is not invoked in the original sentence. Yet it may be objected that such a transformation still rules out the possibility that the two sentences express the same thought, and this objection could be based on the same thesis that underlies the principle that two sentences cannot express the same thought if one involves a concept that the other does not, viz., the thesis that the sense of a part of the thought expressed by the sentence is a part of the thought expressed by the sentence as a whole.

If the sense of an indexical word is understood on the model which McGinn and Dummett provide for 'I', according to which the sense of the word is a way of thinking of the referent common to all competent speakers of the language, such an objection is mandatory. Presumably, the way of thinking of a day associated with 'yesterday' is quite different from the way of thinking of a day associated with 'today'. Since a thought is composed of its constituent parts, it follows that thoughts which involve distinct constituents are distinct.

However, what made the similar objection compelling in the case of sentences A, B, and C was the idea that possession of the concept involved in a thought is essential to its grasp, so that a thought cannot be identified with one that can be grasped by someone who does not possess the concept. There is no such compelling ground for objection in the present case. To suppose, for example, that someone might be able to grasp the thought expressed by an utterance of 'Yesterday was August 29, 1995' but not be able to grasp the thought expressed by 'Today is August 29, 1995' is at least somewhat implausible. Indeed, it is extremely natural to suppose that indexicals of the same type¹⁰ are understood together if they are understood at all. Frege's tentative attempt at characterizing the sense of 'I' in communication – as 'he who is speaking to you at this moment' – only serves to underscore this point.¹¹

The objection to allowing that sentences involving correlative indexicals may express the same thought comes down to the claim that the sense of such a word is to be identified with a special way of thinking of its referent. What Frege says about 'I' may seem to support such a view; but the fact that he continued to maintain his view

¹⁰ By 'the same type' I mean to group, for example, the personal pronouns 'I', 'you', 'he', 'she', pronouns referring to locations such as 'here' and 'there', and so forth.

¹¹ Indeed, it may explain the suspicion of circularity to which Frege's proposal gives rise.

concerning correlative indexicals in the same pages as he made his remarks concerning 'I' speaks against taking this as his settled view. Not only is the identification of sense as a way of thinking for this reason questionable as an interpretation of Frege, it also has the disadvantage of making almost as fine-grained a distinction amongst thoughts as was found objectionable in the case of Leo Peter and Herbert Garner. On this account, one may in principle be able to grasp the thought expressed by an utterance, on the day, of the sentence 'Today is August 29, 1995'; but given the claim that a constituent of that thought is a way of thinking of that particular day, no one could express the same thought on any other day. On Evans' account, the thought expressed the next day by saying 'Yesterday was August 29, 1995' would be similar in precisely the respect that the direct reference theory says it is similar: it would have the same day as a constituent as the first thought expressed by the first sentence. But on Evans' account, it also has as a constituent a particular way of thinking of the day associated with the word 'yesterday' that is not the same as that associated with the word 'today'. Similarly, no one else can express or in any other way pass along to another precisely the thought Haley would express by saying 'I was born May 18, 1988'. Such a view is not so attractive that we are forced to deem Frege's doctrine concerning correlative indexicals an aberration.

In this case, there is no compelling ground for taking Frege to have been misled by his criterion for sameness of thought expressed.

3. Thoughts and Context

The claim that a sentence which contains an indexical does not by itself express a thought is one of those doctrines which Frege seems to have consistently maintained throughout his career. In the late essay 'Der Gedanke', Frege says of sentences containing indexicals that

the mere wording, which can be made permanent by writing or the gramophone, does not suffice for the expression of the thought (Frege 1918/19a: 64).

A short passage in the fragment 'Siebzehn Kernsätze zur Logik' (Hermes et al. 1979: 174-175) – which are arguably the first philosophical writings we have from Frege's pen¹²

¹² The original editors of the Frege Nachlass had dated the piece to 1906, but as Dummett (1991) has pointed out, evidence internal to the text suggests a far earlier date of origin, certainly prior to 1891. Dummett argues that the fragment is a reaction to Lotze's *Logik* published in the 1870's, and his argument in support of this reading is compelling. However, he also argues that the Kernsätze are the earliest piece on philosophical logic we have from Frege's pen, antedating even the *Begriffsschrift*. Dummett places much emphasis on Frege's use of a terminology of 'thoughts', rather than of 'contents', which had become his official terminology by 1879. But it should be noted that Frege often uses the term 'thought' in informal contexts in his writing of the

- states a similar doctrine regarding the demonstrative 'this'. The tenth of the Kernsätze reads as follows:

The sentence 'Leo Sachse is a man' is the expression of a thought only if 'Leo Sachse' designates something. And so too the sentence 'this table is round' is the expression of a thought only if the words 'this table' are not empty sounds but designate something specific for me, (Hermes 1979: 174).¹³

Kernsatz 10 introduces one of Frege's characteristic doctrines: that it is the thought or content expressed by a sentence, and not the linguistic expression itself, to which truth primarily attaches. Frege remarks in Kernsatz 8 that 'the expression in language for a thought is a sentence,' but that we apply truth in an extended sense when we speak of the truth of a sentence. In Kernsatz 9 he says it is only because the sentence expresses a thought that we call it true or untrue. This is shown by the fact that not every sentence can, as such, be called true or untrue. It makes

1880's, for example in the 'Dialog mit Pünjer über Existenz'. This latter piece would seem to be a companion to the Kernsätze - they were found in the same envelope - with overlapping areas of concern and modes of expression. If the Kernsätze and the dialogue with Pünjer are roughly contemporaneous this would count against a dating before 1879, since the dialogue makes explicit reference to the *Begriffsschrift*. Moreover, if Dummett is right in regarding the passage as a series of comments on the introduction to Lotze's *Logik*, what more natural shift than that from Lotze's 'thinkings' to the cognate but considerably less psychologistic 'thoughts'?

¹³ The tenth of the Kernsätze is incorrectly printed as part of Kernsatz 9 in (Hermes 1979); cf. (Hermes 1969: 189).

no sense, for example, to call a sentence such as 'This table is round', considered in itself, true or untrue. Only when used as referring to a particular table does it become the expression of a thought.

Frege enunciates a similar position with respect to empty names and indexicals in the 'Dialog mit Pünjer über Existenz' (Hermes et al. 1979: 53-67), down to the examples 'Leo Sachse' and 'this table'. The topic of the dialogue is the status of predications of existence. Frege's interlocutor, Pünjer, attempts to argue that logic requires such a predicate, since 'There are men' cannot be inferred from 'Sachse is a man' alone; the further proposition 'Sachse exists' is needed as well. Frege replies,

If 'Sachse exists' is supposed to mean 'The word 'Sachse' is not an empty sound, but designates something,' then it is true that the condition 'Sachse exists' must be satisfied. But this is not a new premise, but the presupposition of all our words - a presupposition that goes without saying. The rules of logic always presuppose that the words we use are not empty, that our sentences express judgements, that one is not playing a mere game with words, (Hermes 1979: 60).

Frege's response to Pünjer is that the predication of existence is pleonastic, that it adds nothing by way of content to what it is predicated of. 'Exist', he says, is

an empty grammatical predicate in the same way that 'it' is an empty grammatical subject in 'It is raining'. Pünjer attempts to salvage some content for a predication of existence by suggesting that the content of 'This table exists' can be conveyed by 'The idea of this is not an hallucination, it is not something which originates from myself alone but the idea has been formed as the result of the ego's being affected by the this.' Frege objects that one only has a right to expressions of the form 'the idea of this, or the ego's being affected by the this', after having made the judgment 'something corresponds to this idea of mine':

If nothing corresponds to this idea of mine, then the expression 'idea of the this' has no sense and thus the sentence as a whole has no sense, (Hermes 1979: 64).

Frege's position, then, in both the Kernsätze and in the dialogue, is that a sentence containing a term lacking a definite designation fails to express a thought. An expression stands for something and thus has a meaning or content, or it is meaningless, in which case a sentence in which it occurs 'as a whole has no sense'.

While the small evidence we have indicates that in so far as the passage concerns indexicals, Frege's view remained constant, the early passages enunciate a doctrine concerning empty names which contrasts sharply with Frege's remarks on the topic after he made the distinction between

sense and reference. After 1891, Frege held that a sentence containing a name which has no referent could still be the expression of a thought. For example, in the 'Einleitung in die Logik', dated by Frege himself to 1906, he argues that if we became convinced that the name 'Odysseus' did stand for an actual man, the thought expressed by sentences in the *Odyssey* would in no way be altered, (Hermes et al. 1979: 191; cf. also Frege 1892: 28, 32-33, Hermes et al. 1979: 225, 232; McGuinness 1980: 63).

Now, according to Evans (1982: 23), Frege's post-1891 views concerning empty names are mistaken, and they are inconsistent with his central doctrines concerning reference and thoughts. Evans bases the latter charge on his (somewhat surprising) contention that Frege's theory of reference not only predates its official introduction in 1891, but that he subscribed to the very same theory from 1879 to the end of his career. According to Evans' interpretation of the theory of reference, 'a genuine referring expression has as its sole function the identification of an object' (1982: 42). The addition of the theory of sense to this single-level theory of meaning after 1890 was an afterthought, added solely to account for certain notions we employ in 'ordinary propositional attitude psychology', such as cognitive value, knowledge, thought, communication, and so forth (Evans 1982: 13, 18, 19, 24). As Evans sees it, Frege's core theory of meaning,

which he maintained from his earliest writings to his last, is essentially Russellian: the meaning of a singular term, as well as the contribution it makes to the meaning of a sentence in which it occurs, is its reference. When this is combined with his interpretation of sense as a way of thinking of an object, Evans' finds that Frege's ascription of sense to empty names barely intelligible. If the sense of an expression is a way of thinking of an object, then, if there is no object one is thinking of, there can be no sense that one is grasping. Likewise, given that the referent of a thought is a truth value, there can be no thought expressed by a sentence that is neither true nor false.

Evans holds that sense is a mode of presentation of the referent, and if nothing is there to be presented, it follows that there can be no sense attaching to an empty name. But this seems incorrect: if there is nothing answering to the name, then this just means that the sentence stating the reference of the name – the sentence which expresses the sense of the name – is false. But it nevertheless expresses a thought with a truth value (viz. the False). For example, if I write

(S) 'Δ' refers to the largest prime

I give the sense of 'Δ'. S is false on a Russellian analysis,

(T₂) $\exists x (\text{prime } x \wedge \forall y [\text{prime } y \rightarrow y \leq x] \wedge \text{'}\Delta\text{' refers to } x)$,

because of a failure of the existence condition. (T₁

requires that we depart from Frege's practice of treating descriptions such as 'the largest prime' as names). Note that in T_s , ' Δ ' is mentioned, not used, so that in the thought T_s expresses we will have the sense of the quotation name of an empty name. The quotation name, however, is not empty.¹⁴

Evidently, it is not in respect of his treatment of empty names that Evans' theory is Russellian, for he would not endorse such a solution to the problem of empty names. As Dummett (1991c: 320) has observed, Evans 'viewed the sense that a speaker attaches to a singular term as constituting the manner in which its reference is given to him, that is, *his* means of identifying it or picking it out.' In accordance with this, Evans would require of an account of the sense of a term that it include a description of how the subject thinks of the referent of the term. Presumably, this would hold even in the case of ' Δ '.

There is no incoherence involved in the very idea that a term which lacks a referent might yet have a sense, as Frege consistently maintained after 1891. Only when the notion of sense is construed in the way that Evans suggests does the threat of incoherence arise. Certain of Frege's remarks in 'Der Gedanke' (1918/19a: 65-66) may lend support to Evans' understanding of the notion, but we have already seen that the view Frege advances in these paragraphs

¹⁴ I owe this argument to William Demopoulos.

conflicts with his own, often vehemently expressed, antipsychologism.¹⁵ These not insubstantial differences with Frege cast considerable doubt on the characterization of Evans' view as 'Fregean'. Nonetheless, many consider Evans' account of indexicals to be the leading defence of a Fregean approach on this topic (cf. Perry 1993: 28). And Evans himself presents his account as an elaboration of Frege's own view of the matter (Evans 1982).

Evans' account of indexicals begins with a distinction between *type* and *token* modes of presentation (ways of thinking) of something. The type modes of presentation in Evans' theory are a generalization to all indexicals of the sort of mode of presentation which McGinn and Dummett believe to be associated with 'I'. According to Evans, everyone who thinks a thought of the form 'I am F' or 'Today is G' thinks of herself or of a day in the same type of way. But there are exactly as many token modes of presentation in those thoughts as there are people thinking the thoughts, or days that they are thinking the thoughts. The token modes of presentation – not the types – must be the thought constituents, if thoughts are to be true or false outright,

¹⁵ Dummett's criticisms of Evans are often oddly muted (cf. Chapter II, p. 79, Dummett 1981: 129-132; 1991c). For instance, when he takes to task those accounts of meaning which would make idiolect prior to meaning in the common language, Evans' name rarely comes up, despite the frank psychologism of his view. Bell's (1990) objections to the views Evans advances as an interpretation of Frege are much more pointedly stated.

since the different token modes of presentation of a given type determine distinct objects. A token mode of presentation is to be regarded as obtained by indexing a type mode of presentation with an object. So if Δ is a type mode of presentation, then $[\Delta_x]$ will be the token mode of presentation obtained by indexing the type Δ with the object x . On Evans' account, it is the object which is crucial to individuating a genuine sense of the sort that can figure in a thought. For example, if I say 'Today it is cold' on July 19, 1995, this theory provides a mode of presentation for that day, but buried inside that mode of presentation is a day, rather than a mode of presentation. *Objects*, and not just modes of presentation, figure in thoughts as Evans construes them. This is the respect in which, on Evans' account, Frege's theory is properly called Russellian.

Of course, this interpretation flies in the face of Frege's view that objects do not figure in thoughts.¹⁶ Whatever its merits as an account of indexicals, Evans' theory is a departure from Frege's. Moreover, it is a

¹⁶ Cf. Frege's letter to Russell of November 13, 1904 (McGuinness 1980: 163), in which he says that Mont Blanc with all its snowfields is not part of the thought that Mont Blanc is more than 4000 meters high. In an undated draft of his letter to Jourdain of January 28, 1914, Frege writes that the part of the thought expressed by the sentence 'Etna is higher than Vesuvius' which corresponds to the name 'Etna' cannot be the mountain itself: 'For each individual piece of frozen, solidified lava which is part of Mount Etna would then also be part of the thought that Etna is higher than Vesuvius. But it seems to me absurd that pieces of lava, even pieces of which I had no knowledge, should be parts of my thought' (McGuinness 1980: 79).

departure along the same lines as the explicitly anti-Fregean theory advanced by Perry (1977) and Kaplan (1989a). As a theory of indexicals in its own right, Evans' account has the distinct disadvantage of ruling out the attractive idea that the same thought can be expressed on different occasions by using correlative indexicals. Suppose that yesterday I said, 'Today is July 18', and today I said 'Yesterday was July 18'. According to Evans, the thought expressed yesterday will have as a constituent a mode of presentation provided by the day *d* and the type mode of presentation of 'today', while the thought expressed today will involve *d* and the type mode of presentation of 'yesterday'. The thought expressed yesterday will not be the same as the thought expressed today. The difference between Evans' theory and that of Kaplan and Perry is that the latter individuates propositions in a very coarse-grained way. According to the latter theory, where the proposition expressed is concerned, it makes no difference whether a person who has been lost in the bush for several weeks and lost track of the day is told that June 27 is June 27 or whether he is told that today is June 27; in each case, the proposition expressed is exactly the same. The fault in Evans' theory is the reverse one of making too fine a distinction amongst thoughts.

Kaplan and Perry recognize that a theory, which includes an element of the context as a constituent of what

is expressed by a sentence containing an indexical cannot be a Fregean theory of indexicals. Even if it were revised to allow sentences involving correlative indexicals to express the same thought, Evans' theory would in this important respect be non-Fregean. If the context of utterance is not part of the thought expressed using an indexical, how is it involved in the expression of that thought?

A peculiar attempt at avoiding the inclusion of elements of context in thoughts expressed using indexicals is proposed by Wolfgang Künne in his paper 'Hybrid Proper Names' (1992). Künne argues that we should take some of the things Frege says about indexicals very literally:

[O]ften... the mere wording, which can be made permanent by writing or the gramophone, does not suffice for the expression of the thought.... If a time-indication is conveyed by the present tense one must know when the sentence was uttered in order to grasp the thought correctly. Therefore the time of utterance is part of the expression of the thought.

In all such cases the mere wording, as it can be preserved in writing, is not the complete expression of the thought; the knowledge of certain conditions accompanying the utterance, which are used as means of expressing the thought, is needed for us to grasp the thought correctly. Pointing the finger, hand gestures,

glances may belong here too (Frege 1918/19a: 64).

While it might seem incredible that Frege was any more likely to believe that the moon is any more a part of the sentence 'That is the moon' than it is part of the thought expressed, Künne cites this passage from 'Logic in Mathematics' in support of his view:

A concept word combined with the demonstrative pronoun or definite article often has... the logical status of a proper name in that it serves to designate a single determinate object. But then it is not the concept word alone, but the whole consisting of the concept word together with the demonstrative pronoun and accompanying circumstances which has to be understood as a proper name (Hermes et al. 1979: 213).

Combined with Künne's proposal that 'circumstances' be understood as consisting of 'all and only those non-linguistic entities which have to be identified if an evaluation of the utterance in terms of truth and falsity is to be possible' (1992: 724), this passage might seem to give strong evidence for taking Frege to be advancing a theory of hybrid proper names.

Although Künne does not cite it, Frege does make similar remarks concerning demonstratives in a draft version of 'On Concept and Object':

... in the sentence 'That is Saturn' we have two proper names for the same object. For the word 'that',

together with an appropriate pointing gesture, must here be construed as a proper name (in the logical sense), i.e. as a sign for an object' (Hermes et al. 1979: 91).¹⁷

However, this latter passage casts considerable doubt on the idea that Künne's definition of circumstances is one that should be attributed to Frege. There is not the least suggestion that Saturn is any part of the sentence 'That is Saturn'. By accompanying circumstances, Frege rather seems to mean the gesture of pointing. What Künne requires for his view is the thing gestured at, but the inclusion of this in the sentence seems to be no part of Frege's view.

In defence of his proposal, Künne attempts to assuage its counter-intuitiveness by comparing hybrid proper names with a particular sort of quotation-name, viz. the sort for which Reichenbach (1947: 284ff.) devised his token quotes. According to Künne, the quotation name in the following sentence –

S1. 'ε' is an occurrence of a Greek letter

– refers to what is literally one of its parts. He claims that the sentence with the quotation name is no more than a notational variant of

S2. ε ← This is an occurrence of a Greek letter

¹⁷ A third passage, in which Frege talks of forming names by adding a demonstrative pronoun to a concept word, is to be found in a letter to Marty dated August 29, 1882 (McGuinness 1980: 100).

with the role of the quotation marks fulfilled by the demonstrative 'this' and the arrow used as an inscriptional substitute for a gesture,¹⁸ and notes that, 'Since the entities referred to in our last two numbered lines are themselves linguistic in nature, we do not hesitate to think of them as part of the thought expression' (Künne 1992: 730). But perhaps we ought to hesitate. To take the occurrence of 'ε' in S2 to be part of the thought expression, as Künne suggests, is just to accept his account of indexicals and along with it the view that anything from a fly speck to a distant galaxy can be part of a thought expression. On the whole, it seems less incredible to think that this aspect of Künne's account of quotation-names is mistaken.

What Frege actually has to say concerning the relation between the circumstances which accompany the utterance of a sentence containing an indexical and the thought it expresses is considerably less specific than would be

¹⁸ Künne follows Davidson (1979; cited in Künne 1992: 729) in holding quotation-names to be structured in this way, as opposed, for example, to Quine's view according to which a quotation-name is an unstructured singular term (cf. Quine 1960: 143; 1961: 140). Against Künne, however, Davidson holds that what appears between quotation marks is

... not, from a semantical point of view, part of the sentence at all.... What appears in quotation marks is an inscription... [and] the inscription inside does not refer to anything at all, nor is it part of any expression that does. Rather, it is the quotation marks that do the referring (Davidson 1984: 90).

Davidson calls his view the *demonstrative theory of quotation*, and is quite clear that his view is dependent on the provision of an adequate account of demonstratives.

desirable in a comprehensive account of indexicals. He certainly does not say enough to support the interpretation provided by Evans, nor that provided by Künne. But he is clearly aware that context must somehow be involved.

In 'Der Gedanke', nearly four decades after first making the same point in the *Kernsätze*, Frege maintained that sentences containing indexical words do not by themselves suffice to express complete thoughts. In between, in the 'Einleitung in die Logik' of 1906, Frege adopts the convention of calling a linguistic item which has the grammatical form of a sentence, but which does not suffice to serve as the expression of a thought, a *quasi-sentence* (Hermes et al. 1979: 190). Frege's primary concern in this passage is the use of variables (or 'letters', as he preferred to call them) to express generality. For example, he holds that neither the antecedent nor the consequent of the sentence 'If a is greater than 2, then a squared is greater than 2' is the expression of a thought. That the appellation applies also to sentences involving indexicals is suggested by his remarks a few pages earlier, where he first makes mention of the notion of a quasi-sentence:

It is nonsense to speak of cases in which a thought is true and cases in which it is false: The same thought cannot be true at one time and false at another. On the contrary, the cases people have in mind in speaking in this way always involve different thoughts, and the

reason they believe the thought to be the same is that the form of words is the same; this form of words will then be a quasi-sentence (Hermes et al. 1979: 186).¹⁹

While the term 'quasi-sentence' is not, so far as I am aware, used anywhere else in Frege's writings, the view he expresses in the 'Einleitung' is of a piece with the one he expresses in both his earlier and his later writings.

For a sentence of this kind to serve as the expression of a thought, Frege evidently believed the sentence stands in need of supplementation. In a sentence involving a tensed verb, Frege held that a time-specification must be filled out if the sentence is to serve as the complete expression of a thought:

But are there not thoughts which are true today but false in six months' time? The thought, for example, that the tree there is covered with green leaves, will surely be false in six months' time. No, for it is not the same thought at all. The words 'This tree is covered with green leaves' are not sufficient by themselves to constitute the expression of thought, for the time of utterance is involved as well. Without the time-specification thus given, we have not a complete thought, i.e. we have no thought at all (Frege 1918/19a: 76).

¹⁹ To this, Frege adds, 'We do not always adequately distinguish the sign from what it signifies.' Künne's view rather flagrantly disregards this caution.

Frege sometimes suggests that the time-specification is to be 'given' by making an explicit addition to the sentence (cf. Frege 1884: § 46), but he does allow that the supplementation of context-sensitive sentences need not always be verbal. In the 'Logik' of the 1890's, Frege notes that the sentence 'I am cold' 'expresses a different thought in the mouth of one person from what it expresses in the mouth of another', and adds that 'There are many cases like this in which the spoken word has to be supplemented by the speaker's gesture and expression, and the accompanying circumstances' (Hermes et al. 1979: 134).

While a gesture or an expression might reasonably be characterized as linguistic – one might, for example, express a thought by responding to a question with a nod, a shrug, or a shake of the head – what Frege has to say in these passages concerning the contribution gestures and non-linguistic reality make to indexical thought expressions is not very helpful. The most specific statement Frege makes concerning this issue is the following:

the knowledge of certain conditions accompanying the utterance, which are used as means of expressing the thought, is needed for us to grasp the thought correctly (Frege 1918/19a: 64).

To express a thought which someone else can understand by uttering an indexical sentence, the speaker must exploit a shared knowledge of the context of utterance; the speaker's

gesture or expression serves to direct his hearer's attention to the relevant features of the context. Whether such knowledge counts as part of the sense of the expression – as part of what the speaker knows about the expression in virtue of his grasp of the language – Frege does not say.

Chapter IV

MEANING, SENSE AND INDEXICALS

An indexical differs from a proper name in that it has associated with it a simple descriptive rule, which, in a given context, determines what an utterance of the indexical refers to. The perennial temptation to treat proper names as mere tags, devoid of anything properly called a meaning, is absent in the case of indexicals. The rule associated with an indexical presents itself as an obvious candidate for the meaning of that word; it seems natural to say that, in giving the rule associated with an indexical we have already stated its conventional significance. On Frege's theory, that part of the meaning of an expression which determines its reference is its sense. As we have seen, however, such a meaning rule is not a sense as Frege conceived it (see Chapter II, p. 47). A rule of this kind will generally determine different referents as the context changes; a Fregean sense is supposed to determine reference absolutely. It appears as if one of two things must give:

either the identification of sense and conventional significance must be given up, or it must be allowed that in the case of indexicals, a sense can determine reference relative to a context rather than absolutely.

The chief problem with the latter option – viz., holding that an indexical has a sense which is context-sensitive – is that such a sense cannot serve as a constituent of a thought with a determinate truth value. But Fregean theory demands that a thought have an absolute truth value, and hence that the component expressions of a sentence used to express a thought have associated with them a sense which determines reference absolutely. But why should we suppose that an indexical has such a sense associated with it? It seems that we do not need such a sense to serve as the meaning of the indexical in the language; the meaning rule already appears to serve that purpose. The attribution of sense to indexicals appears to be driven more by the demand that the theory of sense and reference apply to all meaningful expressions than by any features of linguistic practice.

The first two sections of this chapter take up these issues. I shall argue that the meaning rule associated with an indexical may be an ingredient of its meaning, but that a second notion of meaning, associated with particular utterances of indexicals, is required. Indeed, this is tacitly recognized by proponents of the direct reference

theory of indexicals, who identify the second sort of meaning with what a particular utterance of an indexical refers to. It was argued in Chapter II that this proposal is rather less attractive than it might seem at first sight. In the course of examining Frege's own remarks on indexicals in Chapter III, the proposal that the second sort of meaning is a Fregean mode of presentation, thought of as a 'way of thinking' of the reference, was also found to be inadequate. The final section of this chapter presents an argument, based on Dummett's elaboration of Frege's celebrated context principle, that the meaning of a particular utterance of an indexical is a Fregean sense, but that this sense is to be understood not as a 'way of thinking' of something, but rather as a condition or criterion of identity.

1. Conventional Significance and Indexical

Frege distinguishes three ingredients in the intuitive notion of meaning: sense, force, and what he calls tone or colour. Force is the significance possessed by an expression; force serves to indicate which type of linguistic act is being performed: whether the speaker is making an assertion, expressing a wish, asking a question, or something else of this kind. Frege generally characterized tone as concerned with the mental images or

feelings the speaker wishes to arouse in the hearer; but it is more accurately characterized as comprised of various features of expression, belonging neither to sense nor to force.¹ That is, such images do not determine the kind of linguistic act performed, nor can they affect the truth or falsity of what is said. Despite their importance to a general theory of meaning, force and tone are remote from Frege's central concerns; he discusses them only to set them aside, often in the course of 'separating a thought from its trappings' (Hermes et al. 1979: 138).

Frege made no such distinction within his notion of sense. However, Dummett has taught us to see that there are distinct strands within Frege's conception of sense, that some of these strands are more attractive than others, and that they sometimes work at cross purposes. Of course, Frege saw sense as serving several key theoretical roles, such as determining the reference of an expression and acting as a constituent of the thoughts expressed by the sentences the expression is a part of. In saying that Frege's notion of sense has distinct ingredients Dummett is adverting to ways of thinking of sense that are clearly separable, but which Frege seems never to have distinguished. Dummett identifies three aspects of Frege's

¹ One of Frege's favourite examples of a difference in tone is the difference between 'and' and 'but'; to associate the difference between these two words as a difference in the images or feelings they will arouse in the hearer is more than a little implausible.

notion of sense: first, Frege took the sense of an expression to be part of its 'conventional significance', where this approximates to the ordinary pre-theoretical notion of meaning; secondly there is the conception of sense as 'mode of presentation', or 'route to the reference'; and finally, Frege conceived of senses as timeless, immutable denizens of a 'third realm' which we somehow grasp in our thinking.

Dummett has concentrated much of his discussion of the several strands of Frege's notion of sense to the conflict between the latter two conceptions. The conception of senses as inhabitants of a changeless third realm was originally intended as a bulwark against psychologism. But it can only be rated successful as a defence of the objectivity of sense if it is consistent with the theoretical demands Frege places on his notion of sense. Conceived as a self-subsistent object which we somehow apprehend in our thinking, the notion of sense raises difficulties which Frege certainly never faced up to. Frege speaks of sense as a route to, or way of presenting an object; but it is not easy to see how a self-subsistent object could be a way of presenting another object. Now, it is part of Frege's view that it is possible to speak of a particular thought, referring to it as, say, 'the Pythagorean theorem'; but in this case, the sense is being picked out in a particular way. If grasping the sense of an

expression is akin to referring to it, this would clearly be a problem, since it would send us on an infinite regress. (Presumably, the manner of presentation of the reference would have to be presented in a particular way, which would in turn have to be presented in a particular way, and so forth). If, on the other hand, it is maintained that grasping the sense of an expression is not apprehending it in a particular way, but rather apprehending it in its entirety, senses would be the only objects we grasp in their entirety. On what basis could we deny a similar acquaintance with other sorts of objects? Such a view is not consistent with Frege's other views; in particular, it is not consistent with the doctrine expounded in *Grundlagen* concerning our reference to numbers and other abstract objects. There, Frege expressly denies that our reference to abstract objects is founded on any sort of intuition.

The pernicious feature of Frege's doctrine of the third realm is that it makes sense something that must be apprehended en route to the reference; on such a view, there seems to be no possibility of an acceptable account of how such senses are grasped. Without such an account, Frege's defence of the objectivity of sense is threatened. Setting aside the conception of senses as inhabitants of the third realm, what remains is Frege's conception of sense as a way in which the referent is given to us. To grasp such a sense is to have a way of referring to, or mentioning something;

but the sense does not itself need to be given to us in some way. An argument for the objectivity of senses would then turn on its necessity for successful communication. And indeed, Frege frequently appeals to just such considerations: if two speakers are to communicate successfully, they have not only to use a term as referring to the same object, they must also be able to know that they are doing so. This they can do only if they attach the same sense to the term (cf. Dummett 1994: 41; 1978: 132). Frege does have very good, even if not fully complete, explanations of these things; it is just that they have nothing to do with the third realm.

While the conception of senses as inhabitants of a third realm is quite obviously in conflict with the other strands in Frege's notion of sense, the relation between sense and conventional significance seems at first sight rather less problematic. Russell, Frege's earliest English commentator, simply translated 'Sinn' as 'meaning' (Russell 1903: 501; 1905: 106). Of course, the translation of 'Sinn' as 'sense' is to be preferred, since Frege recognized other ingredients in the notion of meaning besides sense (e.g. force and tone). But the claim that sense is an ingredient of linguistic meaning is integral to any view according to which Frege is to be accounted a philosopher of language. Dummett is perhaps the most vigorous defender of this interpretation of Frege. Nonetheless, even Dummett concedes

that there are cases in which the notion of sense as the way in which the reference is given comes apart from that of sense as conventional significance or linguistic meaning. The cases Dummett cites are *oratio obliqua* and indexicality (Dummett 1981: Chapter 6).

According to Frege's views on *oratio obliqua*, any expression which can occur in such a subsentential clause will, in that context, have a reference other than its ordinary one. Frege adheres to the principle that the reference of a complex expression must remain unchanged when a part of the expression is replaced by another having the same reference (Frege 1892: 35). So the reference of a sentence, for Frege its truth value, must remain unchanged when a part of the sentence is replaced by an expression having the same reference. However, expressions in indirect contexts cannot be replaced by expressions having the customary reference of the original expression while preserving the truth value of the whole sentence. The clause following 'that' in 'Copernicus believed that the planetary orbits are circles' cannot be replaced by just any false sentence while preserving the truth value of the whole. Nor is it immaterial to the truth of 'Columbus inferred from the roundness of the Earth that he could reach India by travelling toward the west' whether we replace 'the Earth' by 'the planet which is accompanied by a moon whose diameter is greater than a fourth part of its own'.

As is well-known, Frege's solution to the problem is to hold that in indirect contexts, expressions acquire new references: the sense of an expression in an ordinary context is the reference of that expression in an oblique context. Since Frege holds that a difference in reference entails a difference in sense – the relationship of sense to reference can be many-one, but cannot be one-many – the sense of an expression in an indirect context must also differ from the sense it expresses in direct contexts. As Davidson (1963) has pointed out, this move depicts every expression capable of appearing in an indirect context as ambiguous: each must have at least two senses, one for direct contexts and one for indirect contexts, and similarly, each must have at least two references. Of course, it is not entirely inconsonant with Frege's attitude toward natural language that he should hold the expressions of our ordinary speech to be ambiguous. In his letter to Russell of 28 December 1902, Frege suggests that the answer is to reform our practice: 'To avoid ambiguity, we ought really to have special signs in indirect speech, though their connection with the corresponding signs in direct speech should be easy to recognize,' (McGuinness 1980: 153). In any case, the ambiguity is not especially pernicious, for it is systematic. Once the sentential context is determined, sense and reference are fixed. Moreover, given the sense of an expression in an ordinary context, its

reference in oblique contexts is determined.

By taking the sense of an expression in an ordinary context as the reference of that expression in an oblique context, it might seem that Frege has accomplished a reduction in the total machinery required to account for indirect contexts. However, Davidson suggests that the appearance of economy is spurious:

The decision to interlock ordinary sense and oblique nominatum has far-reaching consequences. Failing this decision it remains an open question whether having a sense or meaning requires a meant entity in addition to a named entity; but once meanings are nominata, they are entities, and require names. Names for the senses of names in ordinary contexts, which in turn will have further nameable entities for their sense. The apparent economy is spurious; it leads straight to an infinite hierarchy of names and entities. Even if we consider a naming expression in its ordinary and oblique contexts only, identifying ordinary sense and oblique nominatum makes for an increase in the number of entities which must of necessity be postulated, (Davidson 1963: 312).

Faced with this difficulty, Dummett put forward a view in *Frege: Philosophy of Language* (1973: 268) according to which the sense of an expression in oblique contexts remains constant. That is, it retains the same sense in both direct

and indirect contexts. This, he allows, is an emendation of Frege's own view. Dummett's move clearly heads off Davidson's 'infinite hierarchy of names and entities'. Moreover, it obviates the need to suggest that any expression which appears in an indirect context must be ambiguous: whether the sentential context in which it occurs is direct or indirect, an expression still has the same sense.

The supposed problem, raised by an infinite hierarchy of senses, which appears to motivate this discussion is, however, a red herring. Our ability to manufacture an endless series of senses is no more problematic than our ability to formulate infinitely many sentences (a fact which, thanks to Chomsky, has become a commonplace). Each sentence potentially expresses a different thought. Frege himself shows no sensitivity to the problem raised by Davidson and addressed by Dummett. Given the views on natural numbers he expressed in the *Grundlagen*, it should perhaps be unsurprising that Frege saw nothing inherently vicious in an infinite system of abstract objects.

The real problem raised by Frege's views on *oratio obliqua* is that they force a separation between the notion of sense as mode of presentation and the notion of sense as conventional significance. One way in which Frege explains the sense of an expression is as the way in which its referent is given to us. Since the referent of an

expression in an oblique context is its ordinary sense, on Frege's view, that sense must be given to us in some particular way, and hence indirect senses as well as indirect references must be postulated. On the conception of sense as conventional significance, however, the postulation of an indirect sense is entirely redundant.

This is in fact Dummett's view:

... to know what an expression in *oratio obliqua* stands for, according to Frege's theory, we need know no more than the ordinary sense of the expression and the principle that an expression stands, in such a context, for its own sense.... On the conception of [sense] as conventional significance... we shall want only sparingly to ascribe more than one sense to the same expression (Dummett 1981: 99).

Dummett's emendation of Frege's view has the advantage of maintaining the connection between sense and conventional significance. Yet the tight interconnectedness of Frege's system means that any alteration carries a price. In this case, it is the violation of the principle that reference is wholly determined by sense. On Dummett's account, the sense of an expression in oblique contexts can remain constant but only because sentential context interacts directly with the sense to determine reference. Dummett would have it that the reference of

The planetary orbits are circles

is the False, while the same expression occurring as the subordinate clause in

Copernicus believed that the planetary orbits are circles

refers to the thought expressed by the former sentence. So far there is no disagreement with Frege. But to hold, as Dummett does, that 'the planetary orbits are circles' has the same sense in both occurrences, requires that the change of reference result from an interaction of sense with sentential context.

Frege avoids this conclusion through his appeal to indirect senses. The notion of a sense which interacts with features of the context to determine reference is, to Frege, an anathema. For that matter, Dummett himself is usually disinclined to admit that a context-sensitive determinant of reference qualifies as a Fregean sense. This suggests that there is still a gap between sense as mode of presentation and sense as conventional significance.

Indexical words - words such as 'I', 'now', 'here', and so forth - generally have a linguistic significance which is often easily stated. This linguistic significance surely remains constant from one use to another, yet what an indexical refers to can vary depending upon the circumstances in which it is uttered - who said it, when, or where it was said. Were the identification of sense and conventional significance maintained in the case of

indexicals, thoughts involving them would vary in truth value according to the circumstances of use. But it is essential to Frege's notion of a thought that it have an absolute truth value. Indeed, Frege takes as the most obvious sign that two sentences express different thoughts the fact that they differ in truth value.²

One way of maintaining the identification of sense and conventional significance, while at the same time avoiding thoughts with relative truth values, is to deny that indexicals are genuine singular terms. This suggestion has been rarely advanced; resistance to it has focused on two major disadvantages: first, indexicals very obviously play the grammatical role of singular terms; secondly, the positive arguments in favour of the approach have often been rather obscure.³ Dummett (1981: 87) claims to find hints

² Perry's roles (of sentences) are just the sort of context sensitive thoughts Frege would have rejected. Perry defends his notion of the role of a sentence not as a replacement for Fregean thoughts – in his scheme, singular propositions serve that purpose – but rather as a way of characterizing doxastic similarities between agents along a dimension other than that provided by the propositions which are objects of their beliefs (Perry 1988; 1990; 1993:30-31).

³ The best known defence of a view of this kind is Anscombe's (1975) argument that 'I' is not a referring expression. Anscombe claims to have drawn inspiration for this view from certain remarks in Wittgenstein's *Blue Book*. However, others – e.g. Shoemaker (1968) – have claimed to draw inspiration from the same source without reaching quite so radical a conclusion. Whatever the source of the doctrine, there are marked similarities between Anscombe's view of the grammatical role of 'I' and the views of first person thought held by David Lewis (1979) and Roderick Chisholm (1981). However, Anscombe's position is especially obscure:

I-thoughts are examples of reflective consciousness of

of such a view in Frege. The proposal is supposed to be that an indexical is not a genuine singular term, but is rather a strange sort of function expression, which has as its value a function from circumstances to persons, times, and places.

A second option, which Dummett (1981, 1991, 1994) has long urged, is to give up – at least in the case of indexicals – the identification of sense and conventional significance. There seems no doubt that an indexical word such as 'today' has a significance which does not vary with its utterance on different days, is known by all speakers, and governs linguistic communication. But it certainly does not pick out the same reference on every occasion of utterance. Again, it is essential to Frege's notion of thoughts that they be true or false absolutely, and so their constituent senses must determine a reference absolutely. The conventional significance of an indexical does not achieve this; hence, in applying the notion of sense to indexicals, the two ingredients of Frege's notion of sense – conventional significance and thought constituent – must come apart.

Dummett's defence of this option is somewhat

states, actions, motions, etc., not of an object meant by 'I', but of this body.... These conceptions are subjectless. That is, they do not involve the connection of what is understood by a predicate with a distinctly conceived subject (Anscombe 1975: 150, 153). Not only is this view of 'I' obscure, it is far from obvious how such an approach could be extended to other indexicals.

disquieting. According to this view, a particular utterance of the indexical component of a sentence will have a sense which serves to determine the reference of that particular utterance of the indexical absolutely. However, this sense seems to be no part of the conventional significance of the word. While Dummett emphasises that the theory of sense and reference should be seen as the basis of the first plausible theory of meaning, he here appears to concede that there is a kind of meaning upon which the theory of sense can shed no light. Perhaps more seriously, the ascription of absolute sense to indexicals appears ad hoc, in so far as it appears to have much more to do with systematic concerns having to do with sense and reference than with the linguistic features of indexicals.

2. Types and Tokens

The difficulties alluded to in the preceding paragraph can perhaps be mitigated by appealing to another distinction that Frege himself never appealed to in this connection, namely, the distinction between a linguistic expression regarded as a type, and a particular token of that linguistic expression. Suppose (with Perry, see p. 63 above) you receive a postcard upon which the postmark, the return address, and the signature have all been smudged and

are illegible. You can, however, read the message: 'I am having a great time, wish you were here.' If you are a competent speaker of English, you will understand the sentence on the post card; if asked, you could, for example, paraphrase it, construct a scenario in which it might be uttered or written, etc. To understand the sentence in this way, and to grasp the contribution which its constituent, indexical singular terms contribute to its meaning, it is sufficient to exercise knowledge of the conventional significance of the indexicals. Under these circumstances, it would make no sense to ask who wrote the sentence, where 'here' is, or even who is being addressed. However, when you receive the post card, what you are really interested in is how you are to understand this particular utterance of the sentence. But to understand the particular utterance, while it is perhaps necessary, it is hardly sufficient to understand the conventional significance of the singular terms involved. To understand the utterance, more than a grasp of the conventional significance of the indexicals is required, for these do not by themselves provide enough for one who grasps them to determine who wrote the letter, or where 'here' is.

Dummett has proposed that a case of this sort requires that the verb 'to understand' must be recognized as having two meanings: 'that in which someone is said to understand a word, phrase, or sentence as a type, and that in which he

may be said to understand a particular utterance (1994: 58). Given the fact that he treats 'to understand' as the cognate accusative of 'to mean', Dummett would appear to be committed to recognizing a similar twofold meaning for 'to mean'. Indeed, he faults Strawson for holding a view according to which only sentence types are to be called 'meaningful' and 'meaningless', arguing that

... understanding does not relate solely to sentence-types, but also to particular utterances. An utterance is meaningful just in case it can be understood, which means: understood as saying something. It is meaningful, therefore, if and only if it does say something (1994: 59).

Now Frege's thoughts are true or false absolutely, while type-sentences – in particular those involving indexicality or ambiguity – are not. Yet a particular utterance of such a sentence may be definitely true or definitely false. Hence, a thought is what is expressed by a particular utterance of a sentence, and cannot in general be identified with what is expressed by a type-sentence.

By making a distinction between two sorts of meaning, Dummett appears to be able to retrieve a connection between sense and meaning which was apparently lost with the pulling apart of the notions of sense as mode of presentation and as conventional significance. The sense of a particular utterance of a sentence, the thought it expresses, can now

be identified with the meaning of the utterance. Moreover, anyone who allows that an indexical sentence can express something which is true or false absolutely – whether it is called a statement, a proposition, or a thought – must hold the same. A thought is the meaning of a particular utterance of a sentence, and the component parts of the thought are also meanings. And since a thought is composed of the senses of the component expressions of a sentence which expresses it, those senses are meanings.⁴

This point should allay the fear that the ascription of a sense which determines reference absolutely to a particular utterance of an indexical is just a rigid application of the theory of sense and reference to a segment of language to which it does not properly apply. But it does not resolve all of the difficulties. An indexical word evidently has a meaning which remains constant from utterance to utterance, and the connection between this sort of meaning and the sort of meaning which is the sense of a particular utterance is still obscure. Dummett adverts to a further distinction, in concert with the one he makes between understanding a sentence as a type and understanding it as a token, which at first sight seems promising in this regard: that is, the distinction between a

⁴ It is just this point which commits the direct reference theory of indexicals to holding that the reference of an indexical as a kind of meaning. According to this view, the propositional constituent associated with an indexical is just its reference.

dispositional and an *occurrent* grasp of a sense.

In a celebrated passage, Frege writes:

It is remarkable what language can achieve. With a few sounds and combinations of sounds it is capable of expressing a huge number of thoughts, and, in particular, thoughts which have not hitherto been grasped by any man. How can it achieve so much? By virtue of the fact that thoughts have parts out of which they are built up, so that the construction of the sentence out of parts of a sentence corresponds to the construction of a thought out of parts of a thought. And as we take a thought to be the sense of a sentence, so we may call a part of a thought the sense of that part of the sentence which corresponds to it ('Logic in Mathematics' (1914), Hermes et al. 1979: 225).

Frege's point is just that the meaning of sentences depends on the meanings of the expressions that go to make them up. Frege explains our capacity to understand a sentence expressing a thought that is new to us in terms of our existing grasp of the senses of the constituent parts of that sentence. Dummett calls this grasp of the constituent parts *dispositional*. This sort of grasp is contrasted with the situation in which someone grasps a thought for the very first time; Dummett speaks of this as grasping a thought in an *occurrent* sense. In virtue of his *dispositional* grasp of

the constituent senses of the expressions which make up the sentence which expresses the thought, someone would have had the capacity to frame the thought before it was actually grasped. It is just that this is the first time he has entertained the thought. Dummett adds that

It seems natural to say that, in considering complete thoughts, the occurrent notion of grasping a thought is primary, whereas, when we consider single words, the dispositional notion of grasping their sense is primary. What interests us, concerning single words, is whether a subject will understand them when he hears them, or is able to use them when he has occasion to, not whether he has their senses in mind at a particular moment, save when he hears or uses a sentence containing them.... By contrast, what is important about a sentence is not whether he is capable of understanding it, but whether he understands it on a particular occasion on which he hears it. Likewise, what is important about a thought is not whether he is capable of grasping it, or even whether he familiar with it, but whether he is currently apprehending it... (Dummett 1994: 102).

Now it may seem that our problem concerning indexicals can be solved using this apparatus: the sense of a particular utterance of an indexical, when it occurs as part of the expression of a thought, is the sense of which we have an

occurrent grasp; but the sense of which we have a *dispositional* grasp is to be identified with the conventional significance of the indexical.

This way of connecting Fregean sense and conventional significance for indexicals is, however, too swift. The picture given by Dummett's distinction between an *occurrent* and a *dispositional* grasp of a sense is as follows: when we have an *occurrent* grasp of a token utterance of an assertoric sentence, we grasp a thought; i.e., the sentence is truth valuable. In this case, the sense of a component expression of the sentence must be a Fregean mode of presentation of its reference. When the sentence is one which we have never before heard or seen, our ability to exercise an *occurrent* grasp of the sentence depends on our *dispositional* grasp of the senses of its component expressions. In this case, the sense of a component expression is to be identified with its conventional significance in the language.

However, a sentence considered as a type may or may not be truth valuable. Indeed only that relatively small fragment of language Quine labelled 'eternal sentences', and which Frege considered fit to be included in his *Begriffsschrift* are truth valuable. Other sentences, for example, those involving tense, ambiguity, or indexicality, are not truth valuable when considered as types, that is, outside of any context. For this reason, such a sentence,

considered as a type, is not the expression of a thought. When it is a type-sentence involving an indexical which is in question, what would be required for a thought expression, but is lacking, is a Fregean sense associated with the indexical. Considered as a type, an indexical word has no context; hence, it does not refer to anything. On the other hand, proper names – for example, 'the Moon', 'Etna', and so forth – have a sense which determines reference, even if the name is considered independently of any particular context. The conventional significance of an indexical, regarded as a type-word, fails to determine any reference. Nor can it combine with context to determine reference in a particular utterance of an indexical: contexts are neither senses nor parts of senses (see Chapter II, Chapter III, § 3).

Such a view of the matter is entirely consistent with Frege's writings. In the 'Kernsätze', Frege wrote that

The sentence 'Leo Sachse is a man' is the expression of a thought only if 'Leo Sachse' designates something. And so too the sentence 'this table is round' is the expression of a thought only if the words 'this table' are not empty sounds but designate something specific for me, (Hermes et al. 1979: 174).

After making the distinction between sense and reference, Frege was prepared to allow that a sentence such as 'Leo Sachse is a man' could express a thought, could be used to

say something, even if 'Leo Sachse' did not designate anything. As for the sentence 'This table is round', Frege's view appears not to have undergone a similar shift; of sentences involving indexicals he says 'the mere wording, which can be made permanent by writing or the gramophone, does not suffice for the expression of the thought' (Frege 1918/19a: 64). Abstracting from particular utterances of a sentence containing a name, and considering the sentence as a type, it seems plausible to assign the name the same sense it has in any particular utterance. This is not so in the case of indexicals. To be used to say something, a sentence containing an indexical must have a context. What is missing in the case of a sentence involving an indexical, and is not missing in the case of a proper name, is a sense which attaches to the expression to form a complete thought.

Now, it is true that to be able to use the English words 'I', 'you', 'here', 'today' and so forth, one must know their conventional significance. According to Frege's conception, it is a conventional arrangement that English speakers attach the senses they do to words such as 'rain', 'cat', or 'Belgrade'. In other languages, the same sense might be attached to 'piove', 'chat', or 'Beograd'. Rather than considering conventional significance as a kind of sense, or even as part of the sense of an indexical expression, it should rather be thought of as the conventional arrangement – more explicit than is usually the

case with expressions of other kinds – according to which particular senses are attached to particular utterances of indexical words. The conventional arrangement is important for indexicals in a way that it generally is not for other expressions. While a multilingual speaker will know to ask for 'burro' for his bread in Torino but not in Toledo, and to ask for 'burro' to carry his luggage in Toledo but not in Torino, the ability to combine awareness of context and the convention according to which an indexical word has some particular sense on a particular occasion is something that every competent speaker of a language must master.

To sum up: Dummett's distinctions, between a linguistic expression regarded as a type and as a token, and between a dispositional and an occurrent grasp of a sense, afford a way of considering the ascription of a Fregean sense to an indexical as something more than a mechanical application of the principles of sense and reference. To account for our occurrent grasp of a particular utterance of a sentence involving an indexical, we must ascribe a determinate meaning to the indexical; anyone who allows that an indexical sentence can express something which is true or false absolutely must hold the same. On the Fregean view, the determinate meaning to be ascribed to the indexical is a sense or mode of presentation. What is the connection between the sort of meaning thus ascribed to a particular utterance of an indexical and the sort of meaning it has

which remains constant from occasion to occasion? Since the Fregean perspective allows that there are aspects of meaning which fall outside the scope of the theory of sense and reference (e.g. force and tone), we may follow Kaplan and Perry by allowing that the conventional significance, or meaning rule, associated with an indexical is a sort of meaning, and that, on a particular occasion of utterance the meaning rule along with the context decides what the determinate meaning of that utterance will be. The meaning thus determined is not to be identified with the reference of the indexical, as Kaplan and Perry would have it, but rather with a Fregean sense. The conventional significance of an indexical, along with the context, determine the expression's sense, not its reference.

This account has the advantage of being consonant with Frege's views on correlative indexicals (see Chapter III, §2). Given the conventional significance of 'today' – the rule which tells us how to use the word in a given context to get a sense – if I use this term today, it expresses a particular sense, and so contributes to a thought. Nothing then prevents the rule for 'yesterday' determining that, if I use this term tomorrow, it will express the same sense and so contribute in the same way to my expression of the thought I expressed the day before using the word 'today' (cf. Frege 1918/19a: 64).

It is only in the context of a particular utterance of

a sentence that an indexical has a sense at all. We do not grasp the sense of an indexical expression standing on its own, independently of any sentence in which it occurs. Its sense just is its contribution to a thought expressed by a sentential utterance of which it is a part.

3. Indexicals and the Context Principle

One apparent point of agreement between the present account and that offered by the direct reference theory of indexicals discussed in Chapter II is that the linguistic rule associated with an indexical, together with the context in which it is uttered, determines the contribution the indexical makes to what a sentential utterance involving that indexical says. A minor difference concerns the identification which Kaplan and Perry make between the linguistic rule, or character, associated with an indexical and its meaning. The notion of character may play a role in an account of what sense is attached to a particular utterance of an indexical expression, and will in this respect count as a part of its meaning, in so far as a knowledge of this is part of what a competent speaker knows in virtue of his command of the language. But to give its character is certainly not to give the whole meaning of an

indexical. In particular, it is not part of any sense such a word may be used to express, any more than is the tone associated with an expression or the force with which a sentence is uttered.

A more salient difference concerns the contribution an indexical makes to what is said by the utterance of a sentence containing it. According to the direct reference theory of indexicals, this contribution is just the referent itself. Indeed, it is precisely this that makes the theory a theory of direct reference: as we saw earlier, according to Kaplan, indexicals refer

... directly without the mediation of a Fregean *Sinn* as meaning... [The] proposition expressed by a sentence containing such a term would involve individuals directly rather than by way of 'individual concepts' or 'manners of presentation'... (1989a: 483).

What made this move tempting was the thought, common to many of Frege's champions as well as his critics, that an 'individual concept' or 'manner of presentation' must be stateable by means of a purely qualitative definite description. It is against this view that Kaplan and Perry are able to marshal devastating objections.

As was pointed out in Chapter II (p. 52), the obvious response for a Fregean faced with the objections raised by Kaplan and Perry is to deny that the sense of an expression is given by, means the same as, or is expressible in terms

of, a definite description. It is true that, in giving instances of the senses carried by proper names, Frege cites definite descriptions as embodying those senses; but there is no passage in his writings in which he advances the thesis that the sense of a proper name can always be so expressed. This is precisely the response Evans (1979) makes to Perry's direct reference view. Evans' alternative account of how we are to understand the notion of sense requires that we construe Frege's metaphorical talk of a 'mode of presentation' literally as a 'way of thinking' of the reference of an expression. Evans applies this proposal quite generally to indexicals and names, but it was apparently tempting to McGinn and Dummett at least in the case of 'I'. As we saw earlier, however, Evans' proposal fails to avoid the problems of psychologism.

Evans presents his proposal as an elaboration of Frege's view; however, he can only do so by ignoring Frege's appeal, when the need arises for a non-metaphorical account of sense, to the notion of a *condition* (cf. *Grundgesetze* §32). For Frege, the sense of an expression is the condition that must be met by anything that is the reference of that expression. A mode of presentation is, literally, the condition associated with an expression which determines what (if anything) the expression refers to. One of the most striking anticipations of the notion of sense to be found in Frege's writings before 1891 is the brief, but

justly famous, passage in which he writes:

If we are to use the symbol *a* to designate an object, we must have a certain criterion for deciding in all cases whether *b* is the same as *a*, even if it is not always in our power to apply this criterion (*Grundlagen* § 62).

While Frege never explicitly reiterated his thesis concerning criteria of identity, his subsequent practice is fully consonant with it. So, to know the sense of a proper name is, for Frege, to have a criterion for recognizing, for any given object, whether or not it is the bearer of that name. Indeed, as Frege states the principle concerning criteria of identity, it applies quite generally to all singular terms, including indexicals.

Now, the attraction of the direct reference theory of indexicals does not lie solely in the shortcomings of the description theory of the senses of singular terms. A more positive attraction of the direct reference theory is the seeming transparency of indexical reference. In particular, the reference of the demonstratives 'this' and 'that' has seemed so transparent and direct as to require no appeal to the notion of sense, whether it is given by a condition stateable in terms of a definite description or not. As Kaplan puts it:

The connection between demonstrative and object, call this *reference*, is... extraordinarily direct as

compared with the connection between a definite description and its denotation (Kaplan 1989b: 573).

But to suppose that this is possible is just to suppose that there is some explanation of reference which is independent of our grasp of the meaning of referring expressions.

The thought that there must be some expressions the reference of which can be explained independently of language is of special concern to those philosophers who consider the central task of the theory of meaning to be to explain how language refers to, describes, or in general, 'hooks onto' the world (as it sometimes crudely put). Russell's notion of a logically proper name – 'a simple symbol, directly designating an individual which is its meaning, and having this meaning in its own right, independently of the meaning of all other words' (Russell 1990: 215) – is sometimes presented as answering to this purpose. What explains this kind of reference, for Russell, is *acquaintance*, a mode of knowledge independent of language, which is to provide a *sui generis* relation between our words and external reality.

Even among direct reference theorists, Russell's notion of acquaintance is out of favour. Many contemporary direct reference theorists explain the relation in terms of causal chains connecting speakers use of a term and its referent. For example, Michael Devitt argues that for some expressions at least, there must be a language independent explanation

of reference:

There must be some basic terms whose referential properties are not parasitic on others. Otherwise, language as a whole is cut loose from the world (Devitt 1990: 82).

Devitt argues that for these basic terms, the relation of reference is a causal relation. However, the causal theory is almost always presented as a way of accounting for the reference of names, not indexicals. Kaplan, who endorses a version of the causal theory of names, does not extend it to indexicals; the reason may be that the notion of a causal chain does not appear to be well-suited to a general theory of indexical reference. Consider the word 'today': surely the day upon which I utter it is what makes it the case that my utterance refers to that particular day. But what possible causal relation between a certain temporal region and my utterance could explain this?

Seeking to avoid this issue, Kaplan repudiates what he sees as a pervasive 'tendency to confuse metaphysical and epistemological matters with phenomena of direct reference,' (Kaplan 1990: 46). On Kaplan's view, characters 'present' constituents of content in contexts, but the relation of reference itself is in some sense a purely semantic phenomenon. As we saw earlier, such a view can only be maintained at the expense of the idea that a theory of meaning ought to account for the role of language in thought

and communication.

What is wrong about these responses to the question of how we succeed in referring to objects is that we do not have a language independent grasp of concrete objects, as they seem to require. An object cannot be recognized as the referent of a singular term or as something to which a particular predicate applies, or thought of in any way whatever, unless it has been singled out in some definite way. There is no such thing as judging something to be true of an object apart from some method of identifying the object. There cannot be a singular term whose whole sense consists in its having a certain object as referent, without the sense determining the referent in some particular way.

There is, however, an important truth in the idea that indexicals play an important role in explaining how we succeed in referring to concrete objects. Frege does not explicitly address this question in his writings; rather, the objective of his *Grundlagen* and *Grundgesetze* was to justify the existence of abstract objects, in particular, the domain of arithmetic. In *Grundlagen*, the context principle is presented as supplying the means for such a justification. Now, for Frege, the context principle is not solely a justification for ascribing reference to abstract proper names. While Frege was not called upon in *Grundlagen* to work out the application of this principle, or of the principle concerning criteria of identity closely associated

with it in *Grundlagen* § 62, to terms referring to concrete objects, Frege states the principle as applying quite generally to all words. In the introduction to the *Grundlagen*, Frege directs us

... never to ask for the meaning of a word in isolation, but only in the context of a sentence (Frege 1884: x).

If applied generally, the context principle plainly calls into question accounts of the relation of reference which seek to found it in some non-linguistic apprehension of objects. The context principle certainly rules out any account of the relation of reference which makes the question whether the relation obtains between a proper name and an object independent of what speakers of the language of which the name is a part would recognize as settling the truth value of sentences containing the name. It also rules out an account which explains the relation in terms which do not allude to the use of sentences containing the name. According to the principle relating to criteria of identity, the question whether a term refers to a particular object must always reduce to the question whether a certain identity statement is true, namely, an identity statement in which the term in question stands on one side, and a term for the given object stands on the other. The truth condition of this statement, if we can give it, must be non-circular. Frege's discussion of the issue in *Grundlagen*

§§ 62-69 sheds little light on what these condition might be, where the term in question stands for a concrete object.

There is reason to think that in the case of terms for concrete objects, something different is required than in the sort of case Frege explicitly discusses, that of names for abstract objects. While the notion that we can have a language-independent apprehension of objects underlying our reference to them seems mistaken, there is something to the complaint, raised by defenders of such a view of reference, that it cannot be necessary for every singular term that its reference be secured by equating its reference with that of some other term. Frege himself makes it quite clear that, while many words may be introduced by means of a definition or verbal explanation, it is impossible that all the words of the language should be introduced in this way, on pain of vicious circularity (cf. *Grundgesetze* § 30).

The issue is not, however, one of which any clear resolution can be found in Frege's writings. Dummett (1973: Chapter 16) suggests a way of extending Frege's notion of a criterion of identity to terms for concrete objects. His extension of the notion makes an essential appeal to the use of a demonstrative accompanied by a pointing gesture. According to Dummett's proposal, the sense of any proper name 'a' of an ostensible object (an object that can be pointed to) consists in the criterion of truth of a statement of the form 'That is a', which he calls a

recognition statement. Now, it is here that the issue between the direct reference theory of indexicals and Dummett's Fregean account comes to a head. If Dummett went no further than this, his account of reference to concrete objects would apparently rest on the transparency and directness of demonstrative reference, just as the direct reference theory would have it. But if it is true that we cannot explain what it is to treat a term as standing for an object of a certain kind without explaining what it is to identify an object of that kind, then it is a mistake to think, even in the case of demonstratives, that the account of the relation of reference is straightforward and uncomplicated.

Dummett says that an understanding of a demonstrative in a recognition statement requires

... a grasp of the criterion of identity implicitly appealed to as determining the significance of the ostension. 'That is Fido' has to be tacitly understood as 'That animal is Fido', 'That is the Thames' as 'That river is the Thames': the words 'animal' and 'river' do not need to be known, but the concepts must be grasped in knowing what is involved in identifying something pointed to as Fido or the Thames (Dummett 1973: 233).

The criterion of identity for demonstrative reference to an object is given, according to Dummett, by a 'statement of

identification' of the form 'This is the same X as that,' accompanied by two pointing gestures, and where 'X' is a basic count noun (Dummett 1973: 573, 577; 1981: 217).

It may be objected that Dummett's account is forced into a regress at this point, unless it is conceded that here, at last, there is direct, simple demonstrative reference to objects. But Dummett is not forced to concede this point; he holds that in statements of identification, the demonstratives 'this' and 'that' do not function as genuine singular terms, that they 'do not, by themselves, serve to pick out any object at all, even when used in a determinate context and supplemented by a pointing gesture' (Dummett 1973: 570-571).

At this primitive level demonstratives and pointing gestures take the place of singular terms. Of course, at a more sophisticated level, demonstratives may refer to objects, but only when the context picks out some specific criterion of identity. Primitive uses of indexicals, however, involve only crude predications - sentences of the form 'That is P', which, since no criterion of identity is involved, cannot be said to predicate anything of an object. Dummett presents the transition to the level at which we refer to objects as taking place in several stages, mediated by progressive acquisition of a statement of the form '... is the same X as ...', the simplest case of which is the statement of identification. A statement of identification

is not yet an advance beyond the primitive level of language, but is merely a crude relational statement. But the introduction of such statements provides the basis for an advance to the higher levels of language, at which it seems there is first reference to ostensible objects (objects which can be pointed to), then count-nouns in referential position, and so forth. Even at this most primitive level, it cannot be said that Dummett makes any concession to the view that there is a language-independent notion of reference, not merely by denying that there is any reference at this level, but in so far as his account holds that full-blown reference is to be built upon demonstratives, predicates, and the language of gestures, rather than any direct apprehension of objects.⁵

What primarily marks off the use of demonstratives that occur at the most primitive level from the use of proper names and other singular terms, including indexicals properly so-called, is not the ostension but rather the fact that no criterion of identity is invoked or appealed to. Referential use even of a simple pointing gesture requires that the object be recognized in some way, that it have associated with it a criterion of identity. The temptation to think that reference is based on a direct, language-independent recognition of objects is at its greatest in the

⁵ Dummett's most self-contained discussion of the 'levels of language' occurs in Chapter 11 of *The Interpretation of Frege's Philosophy* (cf. Dummett 1981: 216-219).

case of indexicals, and in particular, of the demonstratives 'this' and 'that'. To fall into such a view, or its attendant doctrine that the meaning of such a word is simply its referent, is a mistake. The meaning of a particular utterance of an indexical is, rather, a Fregean sense, which is to be understood as a condition or criterion of identity.

Chapter V

CONCLUSION

Indexical expressions – for example, 'I', 'here', 'yesterday', 'this', and so forth – pose a serious challenge for a Fregean theory of meaning. A Fregean theory holds that the meaning of an expression is its *sense*, and that this sense determines the reference of the expression independently of context. The sense of a sentence is a *thought*. Frege's thoughts play roughly the same role propositions or statements do in other theories. A thought is what is said by uttering a sentence, and what is said is true or false independently of context. The point, whether one speaks of thoughts, propositions, or statements, is to account for the fact that what is said on one occasion can be said again by another person, or the same person on another occasion. On Frege's view, a thought is composed of the senses of its component expressions; it is for this reason that a sense must determine reference absolutely.

The most notable feature of indexicals, however, is their sensitivity to context.

The contribution an indexical makes to the meaning of a sentence of which it is a part depends on the context of utterance. In my mouth, 'I am cold' may be true, but the same sentence in the mouth of another may be false. What an indexical expression refers to depends on the context of utterance. Any theory which holds that what is said by uttering a sentence is true or false absolutely must come to terms with this fact about indexicals.

The standard response is to hold that a sentence might be true or false relative to a context, but that what is said by uttering the sentence is not. David Kaplan (1989a) and John Perry (1977) argue that the tight interconnection between Frege's notions of sense and thought preclude a solution along these lines. They assume (falsely) that the sense of a singular term must be given by or mean the same as a definite description, and advance devastating arguments against this view. Kaplan and Perry advance an alternative theory of indexicals which severs the connection between sense and thought: according to this view, the contribution an indexical makes to a proposition it helps to express is just the referent itself. The meaning of the indexical is just the context-sensitive conventional rule associated with it, which, together with the context of utterance, determines what the word refers to. In Chapter II, it was

argued that neither the propositional constituent nor the conventional significance advanced as the two sorts of meaning associated with an indexical by this theory is adequate to play the role of meaning for a particular utterance of an indexical. To be accounted as understanding a particular utterance of an indexical, a speaker must know more than its conventional significance, but cannot in general be required to know as much as its reference.

The discussion of Frege's own remarks on indexicals in Chapter III gave occasion to comment on Gareth Evans' (1979, 1982) version of a Fregean theory of meaning. The first order of business in Chapter III is the view on 'I' Frege sets out in 'Der Gedanke' (Frege 1918/19a), a paper written toward the end of his life. There, Frege claimed that an utterance of 'I' involves a 'special and primitive' mode of presentation of self, and that thoughts involving this mode of presentation are strictly incommunicable. Evans takes this passage to license a general interpretation of the notion of sense according to which Frege's metaphorical talk of 'modes of presentation' of reference is to be literally construed as 'ways of thinking' of the reference. I argue that Frege's remarks on 'I' are an aberration, in so far as they violate his own strictures against psychologism. For this reason, the general view Evans builds on these remarks fails as an interpretation of Frege. Moreover, it is the psychologism of Evans' view that makes it unattractive as an

account of indexicals.

Chapter IV addresses the twin charges implicit in the Kaplan/Perry attack on Frege: first, Frege's notion of sense seems redundant in the case of indexicals because they already have non-Fregean, context-sensitive meaning rules associated with them; secondly, the way in which many indexicals refer, in particular, the demonstratives 'this' and 'that', seems so transparent as to require no intervening Fregean sense. The response to the first charge is that a meaning more full-blooded than the conventional significance of an indexical is required to account for the contribution an indexical makes to the meaning of a sentence of which it is a part. In addressing the second charge, a response is finally given to an issue left outstanding throughout Chapters II and III: if the sense of a referring expression is not given by a definite description, and it is not a 'way of thinking', what is it?

The proper way to literally construe Frege's metaphorical expression 'mode of presentation' is the way Frege himself did so: namely, as a condition or criterion of identity. Much of the intuitive appeal of the direct reference theory rests on the seeming transparency of indexical reference; but the idea that we have a language independent grasp of concrete objects is an illusion. We cannot explain what it is to treat a term as standing for an object of a certain kind without explaining what it is to

identify an object of that kind. It is a mistake to think, even in the case of indexical reference, that the account of reference can proceed without the notion of a criterion of identity. The meaning of a particular utterance of an indexical is, rather, a Fregean sense, which is to be understood as a condition or criterion of identity.

Frege's few, tentative remarks on indexicals are far from constituting a complete account. Few though they are, they have been persistently neglected in the secondary literature on this topic. Frege's foremost interpreter, Michael Dummett, is an exception in this regard; however, despite the concerted attack on Fregean theories of meaning in point of their approach to indexicals, Dummett has never marshalled a sustained response to these attacks. Drawing on Frege's writings and Dummett's commentary on them, it has been shown that Frege's antagonists do not present an attractive alternative theory, and that an account of indexicals consistent with Frege's theory of sense and reference can and must be given.

BIBLIOGRAPHY

- Almog, J., J. Perry, and H. Wettstein, eds. 1989. *Themes from Kaplan*. New York: Oxford University Press.
- Angelelli, I., ed. 1967. *Gottlob Frege: Kleine Schriften*. Hildesheim: Georg Olms Verlagsbuchhandlung.
- Anscombe, E. 1975. The first person. In *Mind and Language*, ed. S. Guttenplan, 45-65. Oxford: Clarendon Press.
- Bar-Hillel, Y. 1954. Indexical expressions. *Mind* 63:359-79.
- Bell, D. 1987. Thoughts. *Notre Dame Journal of Formal Logic* 28:36-50.
- . 1990. How 'Russellian' was Frege? *Mind* 99:267-77.
- Boolos, G., ed. 1990. *Meaning and Method: essays in honor of Hilary Putnam*. Cambridge: Cambridge University Press.
- Burks, A. W. 1949. Icon, Index, and Symbol. *Philosophy and Phenomenological Research* 9:685.
- Bynum, T. W., ed. 1972. *Conceptual Notation and Related Articles*. Oxford: Clarendon Press.
- Carnap, R. 1947. *Meaning and Necessity*. Chicago: University of Chicago Press.
- Castañeda, Hector-N. 1966. 'He': A study in the logic of self-consciousness. *Ratio* 8:130-57.
- . 1967. Indicators and quasi-indicators. *American Philosophical Quarterly* 4:85-100.
- . 1968. On the logic of attributions of self-knowledge to others. *Journal of Philosophy* 65:439-56.
- Chisholm, R. 1981. *The First Person*. Brighton: The Harvester Press.
- Davidson, D. 1963. The method of extension and intension. In *The Philosophy of Rudolf Carnap. The Library of Living Philosophers*, ed. P. A. Schilpp. LaSalle, Illinois: Open Court.
- . 1979. Quotation. *Theory and Decision* 11:27-40. Reprinted in Davidson (1984: 79-92).

- Davidson, D. 1984. *Inquiries into Truth and Interpretation*. Oxford: Clarendon Press.
- Demopoulos, W. G. 1994. Frege, Hilbert, and the conceptual structure of model theory. *History and Philosophy of Logic* 15:211-25.
- Demopoulos, W., ed. 1995. *Frege's Philosophy of Mathematics*. Cambridge, MA: Harvard University Press.
- Devitt, M. 1991. Meanings just ain't in the head. In *Meaning and Method: Essays in Honor of Hillary Putnam*, ed. G. Boolos, 79-104. Cambridge: Cambridge University Press.
- Donnellan, K. 1966. Reference and definite descriptions. *The Philosophical Review* 75:281-304.
- . 1974. Speaking of nothing. *The Philosophical Review* 83:3-31.
- Dummett, M. 1973. *Frege: Philosophy of Language*. London: Duckworth.
- . 1978. *Truth and Other Enigmas*. Cambridge, MA: Harvard University Press.
- . 1981. *The Interpretation of Frege's Philosophy*. London: Duckworth.
- . 1988. The origins of analytical philosophy. *Lingua e Stile* 23:3-49, 171-210.
- . 1989. More about thoughts. *Notre Dame Journal of Formal Logic* 30:1-19.
- . 1991a. *Frege and Other Philosophers*. Oxford: Clarendon Press.
- . 1991b. *Frege: Philosophy of Mathematics*. Cambridge, MA: Harvard University Press.
- . 1991c. *The Logical Basis of Metaphysics*. Cambridge, MA: Harvard University Press.
- . 1991d. The priority of thought and language. In *Frege and Other Philosophers*, ed. M. Dummett, 315-24. Oxford: Clarendon Press.
- . 1993. *The Seas of Language*. Oxford: Clarendon Press.
- . 1994. *Origins of Analytical Philosophy*. Cambridge, MA: Harvard University Press.

- Evans, G. 1981. Understanding Demonstratives. In *Meaning and Understanding*, ed. H. Paret and J. Bouvresse, 280-303. New York: De Gruyter.
- . 1982. *The Varieties of Reference*. Oxford: Clarendon Press.
- Feigl, H., and W. Sellars, eds. 1949. *Readings in Philosophical Analysis*. New York: Appleton-Century-Crofts.
- Frege, G. 1882. Über die wissenschaftliche Berechtigung einer Begriffsschrift. *Zeitschrift für Philosophie und philosophische kritik* 81:48-56. Translated in Bynum (1972): 83-89.
- . 1884. *Die Grundlagen der Arithmetik*. Breslau: Verlag von W. Koebner. Reprinted as *The Foundations of Arithmetic/Die Grundlagen der Arithmetik*, translated by J.L. Austin, Basil Blackwell, Oxford, 1968.
- . 1885. Über formale theorien der Arithmetik. *Sitzunberichte der Jenaischen Gessellschaft für Medizin und Naturwissenschaft* 19 (Suppl. 2):94-104. Translated in McGuinness (1984): 112-121.
- . 1891. *Function und Begriff*. Jena: Verlag von H. Pohle. Translated in McGuinness (1984):137-156.
- . 1892. Über Sinn und Bedeutung. *Zeitschrift für Philosophie und philosophische kritik* 100:25-50. Translated in McGuinness (1984): 157-77.
- . 1893. *Grundgesetze der Arithmetik*. Vol. I. Jena: Verlag von H. Pohle. Translation of Part I in Furth (1964).
- . 1918/19a. Der Gedanke: eine logische Untersuchung. *Beiträge zur Philosophie der deutschen Idealismus* I:58-77. Translated in McGuinness (1984): 351-372.
- . 1918/19b. Die Verneinung: eine logische Untersuchung. *Beiträge zur Philosophie der deutschen Idealismus* I:58-77. Translated in McGuinness (1984): 373-389.
- . 1923/26. Gedankengefüge: eine logische Untersuchung. *Beiträge zur Philosophie der deutschen Idealismus* III:36-51. Translated in McGuinness (1984): 390-406.
- Furth, M., ed. 1964. *The Basic Laws of Arithmetic*. Berkeley and Los Angeles: University of California Press.

- Gabriel, G., H. Hermes, F. Kambartel, C. Thiel, and A. Veraart, eds. 1976. *Gottlob Frege: Wissenschaftlicher Briefwechsel*. Hamburg: Felix Meiner Verlag.
- Goodman, N. 1951. *The Structure of Appearance*. Cambridge, MA: Harvard University Press.
- Guttenplan, S., ed. 1975. *Mind and Language*. Oxford: Clarendon Press.
- Heck, R. G. 1995. The sense of communication. *Mind* 104:79-106.
- Hermes, H., F. Kambartel, and F. Kaulbach, eds. 1969. *Gottlob Frege: Nachgelassene Schriften*. Hamburg: Felix Meiner Verlag.
- , eds. 1979. *Gottlob Frege: Posthumous Writings*. Chicago: The University of Chicago Press. Translated by Peter Long and Roger White.
- Hodges, W. 1985/86. Truth in a structure. *Proceedings of the Aristotelian Society*, new series 86:135-51.
- Kaplan, D. 1989a. Demonstratives. In *Themes from Kaplan*, ed. J. Almog, J. Perry, and H. Wettstein, 481-563. New York: Oxford University Press.
- . 1989b. Afterthoughts. In *Themes from Kaplan*, ed. J. Almog, J. Perry, and H. Wettstein, 565-614. New York: Oxford University Press.
- . 1990. Thoughts on demonstratives. In *Demonstratives*, ed. P. Yourgrau, 34-49. Oxford: Oxford University Press.
- Kripke, S. 1980. *Naming and Necessity*. Cambridge, MA: Harvard University Press.
- Künne, W. 1992. Hybrid proper names. *Mind* 101:721-31.
- Lewis, D. 1979. Attitudes *de dicto* and *de se*. *The Philosophical Review* 88:513-43.
- Martens, D. 1994. Demonstratives, descriptions, and knowledge: a critical study of three recent books. *Philosophy and Phenomenological Research* 54:947-63.
- Martinich, A. P., ed. 1990. *The Philosophy of Language*. 2nd ed. New York: Oxford University Press.

- McGinn, C. 1983. *The Subjective View*. Oxford: Clarendon Press.
- McGuinness, B., ed. 1980. *Gottlob Frege: Philosophical and Mathematical Correspondence*. Oxford: Basil Blackwell. Translated by Hans Kaal.
- , ed. 1984. *Gottlob Frege: Collected Papers on Mathematics, Logic, and Philosophy*. Oxford: Basil Blackwell.
- Perry, J. 1977. Frege on demonstratives. *The Philosophical Review* 86:474-97.
- . 1979. The problem of the essential indexical. *Nous* 13:3-21.
- . 1988. Cognitive significance and new theories of reference. *Nous* 22:1-18. Reprinted in Perry (1993: 227-245).
- . 1990. Individuals in informational and intentional contexts. In *Information, Semantics, and Epistemology*, ed. E. Villaneuva, 172-89. Cambridge: Basil Blackwell. Reprinted in Perry (1993: 279-300).
- . 1993. *The Problem of the Essential Indexical*. New York: Oxford University Press.
- Putnam, H. 1975. The meaning of 'meaning'. In *Mind, Language and Reality*. Philosophical Papers, Volume II, ed. H. Putnam, 215-71. Cambridge: Cambridge University Press.
- Quine, W. V. O. 1960. *Word and Object*. Cambridge, MA: MIT Press.
- . 1961. *From a Logical Point of View*. Second ed. Cambridge, MA: Harvard University Press.
- Richard, M. 1983. Direct reference and ascriptions of belief. *Journal of Philosophical Logic* 12:425-52.
- Russell, B. 1903. *The Principles of Mathematics*. London: George Allen & Unwin.
- . 1905. On denoting. *Mind* 14. Reprinted in Feigl and Sellars (1949: 103-115).
- . 1912. *Problems of Philosophy*. London: Oxford University Press.

- Russell, B. 1919. *Introduction to Mathematical Philosophy*. London: George Allen & Unwin Publishers Ltd.
- . 1940. *An Inquiry into Meaning and Truth*. New York: W.W. Norton and Co.
- . 1985. *The Philosophy of Logical Atomism*. LaSalle, IL: Open Court. David Pears (ed.).
- . 1990. Descriptions. In *The Philosophy of Language*. Second ed., ed. A. P. Martinich, 212-18. New York, Oxford: Oxford University Press. From Chapter 15 of (Russell 1919).
- Salmon, N. 1986. *Frege's Puzzle*. Cambridge, MA: MIT Press.
- Schilpp, P. A., ed. 1963. *The Philosophy of Rudolf Carnap*. The Library of Living Philosophers. LaSalle, Illinois: Open Court.
- Shoemaker, S. 1968. Self-reference and self-awareness. *Journal of Philosophy* 65:555-67.
- Shwayder, D. S. 1976. On the determination of reference by sense. In *Studien zu Frege*, ed. M. Schirn, 85-95. Vol. III. Stuttgart and Bad Constatt: Friedrich Fromann Verlag.
- Simons, P. 1992. Why is there so little sense in *Grundgesetze*? *Mind* 101:753-66.
- Sluga, H. 1986. Semantic content and cognitive sense. In *Frege Synthesized*, ed. L. Haaparanta and J. Hintikka. Dordrecht: D. Reidel Publishing Company.
- Soames, S. 1989. Direct reference and propositional attitudes. In *Themes from Kaplan*, ed. J. Almog, J. Perry, and H. Wettstein, 383-409. Oxford: Oxford University Press.
- Stalnaker, R. 1981. Indexical belief. *Synthese* 49:129-51.
- Wettstein, H. 1986. Has semantics rested on a mistake? *Journal of Philosophy* 83:185-209.
- Yourgrau, P., ed. 1990. *Demonstratives*. Oxford: Oxford University Press..